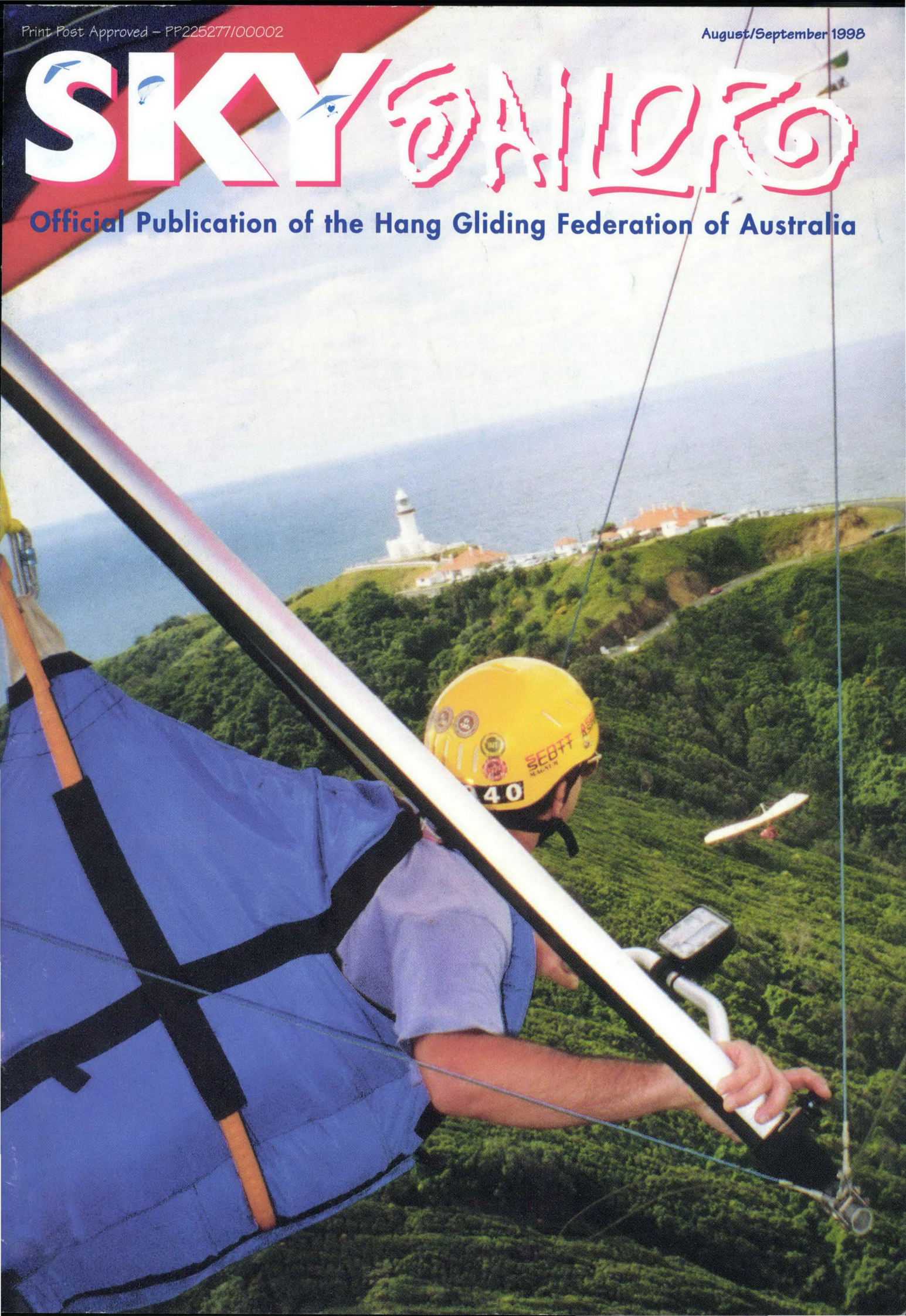


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Official Publication of the Hang Gliding Federation of Australia



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All photos and materials will be returned after publication if a stamped, self-addressed envelope is supplied.

DEADLINE FOR OCTOBER ISSUE

Deadline for articles is **21 August 98**, 6 weeks prior to publication. Deadline for classifieds, news, display ads is **1 Sept 98**, 4 weeks prior to publication.

Missing Magazines

Please contact the HGFA office in Tumut on (02) 69472888 for changes of address and mailing of missing magazines.

Classifieds and Advertising

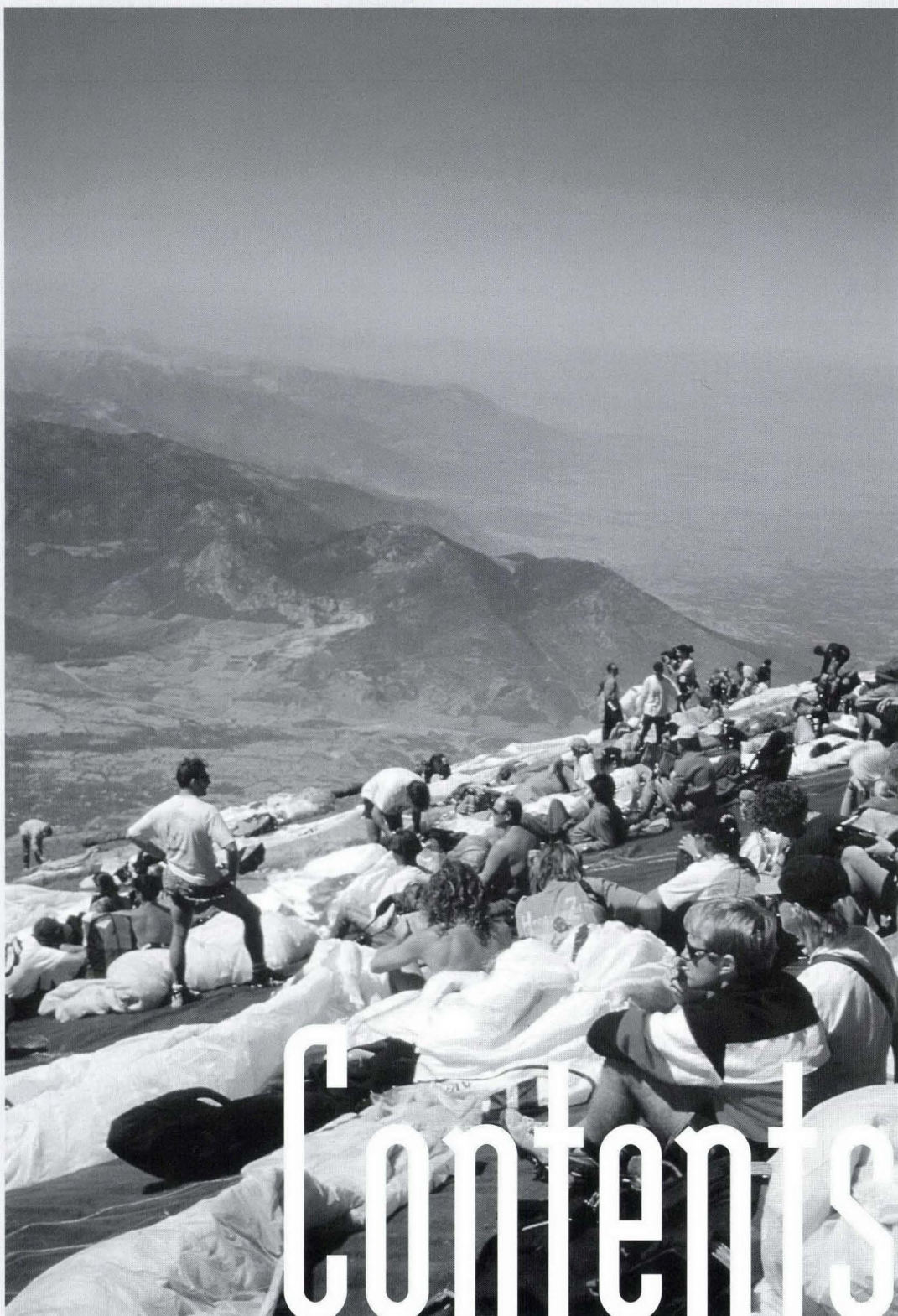
Classified ads are to be mailed, faxed or emailed to the editor and are free to financial members – please quote your membership number. Advertising rates and mechanical specifications are available on request. All ads to be paid prior to publication. Special typesetting incurs an extra cost.

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The Waiting Game at Mt Honaz during the World Air Games – Paragliding. Ph: Andy Abbott

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Firstly, I wish to credit Patrick Roser, author and photographer of the USA & Canada travel article in the June/July issue, and thank him for his interesting contribution. There is quite a bit of discussion going on in the competition scene this issue. Make sure you read the articles by Geoff Dossetor, Rob Whittall and Heike's Comps Committee news. I expect some further discussion of the ideas proposed in these in the future. Lastly another reminder that I won't be able to accept any late submissions for the next issue. Make sure you're in time or you'll miss out. Take note of the deadlines below:

October/November Skysailor Deadlines

21 Aug for articles, photos, display advertising bookings
1 Sept for classifieds, product news, club news, comps, letters.

Fly Safely,



PS: Thank you to all who showed understanding for the circumstances of last issues lateness. Your best wishes were appreciated.

► Just a quick note of thanks for the latest edition of Skysailor. It was a pleasant surprise to receive it in the mail here in France – much more interesting than Vol Libre.

Thanks, Gavin Hanlon

► Alistair Dicke's letter in June Skysailor caused me to think, "Here's someone who doesn't know when not to rock the boat. When I started selling radio gear to pilots in 1990, I took the trouble of checking with the sales tax department to clarify the position regarding hang glider pilots. They told me to claim exemption under Item 119-A3, which I have been doing for my customers ever since. Radios are an essential safety device, especially when dealing with downed paraglider pilots. Regardless of which exemption actually applies, doesn't it stand to reason that dealers would have their facts right? It is part of their business responsibility. If the dealer tells you something is tax deductible, then he is responsible if he is in error, the customer would not be liable. Paranoid paragliding armchair lawyers are not needed. If you have nothing better to do than write letters to the editor, causing unnecessary worry to law-abiding citizens, why don't you ask the tax department to come and audit your income tax instead?"

Name Withheld

► Microlight Flight

Grandson Mark has a microlight plane. Helen's sons have rides, all of them game. "What about you, Grandma, do you want one too?" "I'll not miss this chance, of course I do." Into a flight suit, Lyn and Helen give me a hand Then stand back and laugh, "Mum, you look like Michelin Man." A helmet then completes the gear. Into the plane, I sit in the rear. Mark is ready, does a safety check Then the plane rises, adrenaline flows, excitement has this effect. We surge up over the trees, Now being caressed by a gentle breeze, Looking down on the farm from this height Is a sight that fills me with delight. The homestead nestles there among the trees, Colourful garden, bright as can be. Water tanks, sheds, stockyards, silos I see, And, yes! There is the family waving at me. Now flying up over the land, Sheep in a paddock, and there's a big dam, The creek winds through the farm like a giant snake With life giving water for the animals to take. Paddocks with crops and pastures, every hue, A piece of magic, this panoramic view. Dookie Hills, Mount Major and there is the town With miniature people, as I look down. Mark circles around, homeward bound. I relax, enjoy a smooth flight back to the ground. "Thank you Mark, that ride was just great, You're not only my grandson, but a great mate."

Molly Sparks, 1997

► I want to express my opposition to holding the '98 HG Nationals in WA. I believe this decision ill-considered for a number of reasons. During the last 3 years I have become a regular on the comp scene in the "recreational class" as opposed to the "serious competition class". The distinction between recreational pilots who attend comps for fun and comp pilots who are heavily involved in the sport and attend for national ladder points need to be considered if the future viability of major competitions such as the nationals is to be ensured. Recreational pilots make up the bulk of the field. In my opinion they attend for 3 reasons:

1. quality XC flying with organised retrieves;
2. improving their skills by flying with some of the world's best pilots and perhaps become seriously competitive;
3. camaraderie, meeting their mates, often not seen for a year.

They don't attend or stop to attend for many reasons, including:

1. cost (entry fee, transport, accommodation, etc);
2. cost of competitive equipment;
3. lack of facilities for non-flying family members;
4. realisation that they'll never progress into the rarefied leagues of the guns.

Competition pilots make up only a small portion of the field. Around 20 people fall into the category with serious national ladder/team aspirations in Australia. The main reason these pilots do or don't attend a comp is its rating. I would now like to point out some problems with the proposed holding of the Nationals in WA. This year's Hay Nationals were attended by 116 pilots of whom more than half were internationals and the remainder Aussies. Many familiar faces were absent. Regardless of why so few Australians attended this year, it is unlikely to improve by shifting the comp to a similar flatland location which presents significant additional disadvantages discussed below. Doubtlessly the proposed area offers excellent XC potential, this can be said for any true flatland area. A good road structure offers retrieve advantages, however, the generally light and variable winds present nightmares for organisers who have to pick a tow direction. The chaos prevailing at tow comps with an end change often results in wasting the full potential of a given day. A one pub town seems too small to stage the Nationals. Birchip offers excellent roads and flatland flying, but was considered unsuitable when Hay was first used, as it could not provide sufficient accommodation and facilities – it has two pubs! Now an even smaller town is chosen. Since socialising is an important part of the comp scene, I fail to see the appeal of staying in a town within a 35km radius. How much fun is this: Fly 100-200km, land as late as 8-9pm, drive 100-300 km back to town, pin in 9-12+pm, have dinner (where?), drive 35km to bed (if the entire team is staying in the same town). Is this realistic? Small country towns offer limited facilities for pilots, spouses and children. Is there a public pool? Is there anything in the area of interest to the non-flying or pilots on lay days? Are there air-conditioned motels? A caravan park? What eating facilities are available when pilots return late? Towing is equipment intensive. A ground tow team of 4 moderately serious pilots will include: 4 pilots, 1 driver, 4 gliders, 4 harnesses, 2 reels, 1-2 cars (tow + retrieve/spare), 1-2 gauges, dolly, spare uprights x 4, toolbox with tape, rings, etc. WA is a long way, 4,000-6,000km, from the eastern states. All equipment must be transported

there and there are only two ways: Fly or drive. The minimum time required to drive is 2-3 days depending on the starting point. Each way takes 4-6 days. It's also expensive. At a nominal cost of \$0.20/km this trip costs a minimum of \$1,600-2,400. Even divided by 4 this is a significant sum in terms of money and time.

Air travel is the other option and will be expensive regardless of discounts. As well as a fare of \$500+, each pilot will face excess baggage or airfreight costs (a 35kg glider, 10kg harness, 10kg share of the dolly and equipment plus clothes will not be within the baggage limit). Once in WA, at least one car must be hired and set up for hang glider transport. It also needs unlimited kilometres, given an average day has the car going 300km. Oh, I forgot about the driver. Hope we can find a good one in WA. Hope they know how to tow, read a map, use a GPS, etc or should we bring our driver over for \$500+? No matter where the competition is held, if it carries significant national ladder points the die hard comp pilots will be forced to attend (especially if the new recent season biased national ladder system is introduced). This is not the case for the recreational pilots who form the backbone of comp viability. Why waste 4-6 days driving to get flying no better than available in the east? Why spend an extra \$600-1,000+? The HG Nationals are staged to select the best pilots in the country, but this should not be mutually exclusive to the requirements of the recreational pilots that fill up the remainder of the comp ranks. Flatland flying offers every pilot an (almost) equal opportunity to compete in every task. In my opinion, it is the best and fairest format for the Nationals, with none of the vagaries of ordered hill launches. However, picking a flatland site 4,000-6,000km from the majority of pilots likely to want to be involved, makes little sense to me. For better or worse the majority of pilots who attend the Nationals live in the eastern states. To shift the Nationals to WA in a quest for fairness smacks of moving the mountain to Mohammed. If the Nats are held in WA less than perhaps 20 Australians from the eastern states will probably attend. This I base on not only on the reasons above, but also on the straw poll conducted at Hay this year when the WA rumour first surfaced – the reaction was fairly negative: too expensive, too far, too hard, miss Bogong... Competition numbers for the large comps are declining. Holding the Nationals in WA will only accelerate this trend.

James Freeman

The Board made its decision after some serious debate on the following two issues.

1) The bid from WA was the only bid received that met all sanction criteria for the Nationals, including timeliness, budget, presentation, etc. A couple of other expressions of interest were received, but did not satisfy the criteria and so were not eligible for consideration.

2) The one-off total cost (time and money) of eastern pilots competing in WA was considered against the one-off and ongoing costs of competing for those in WA and the risks these costs might have on participation at this premier event. The WA bid had three things going for it:

Significantly, it was the only bid. Secondly it was the most thoroughly thought through and professionally presented application the Board has ever received and finally, in the interests of fairness to all members the western pilots have never had a Nationals in their part of the world. If the comp is up to the same standard as the bid then I've half a mind to start competing myself. Good luck to WA, they deserve to succeed.

Rohan Grant, HGFA President

► I would like to express my opinion that I am not happy with the level of service we are now receiving in relation to Skysailor. My concern is with the decision made by the HGFA Board to change Skysailor to bi-monthly, effectively reducing the service by 50%. I believe it showed great loyalty by the members not to immediately revolt to this decision. Imagine another organisation (being a retail shop or government body), getting away with charging the same, but reducing their service by 50%.

As one of those loyal members, I was happy to sit back when I received a report from my club representative who attended the HGFA AGM (nearly 12 months ago). His report was that upon finding out that the issue was a widespread concern among members, it would be looked into by the Board. After receiving the latest copy of Skysailor, I read the minutes of the May HGFA Board meeting, stating that we are against the change to bi-monthly. Is the Board hoping that it will be forgotten in time?

The facts: Skysailor costs \$66,185, there were 2,893 HGFA members (taken from the minutes of the same meeting). This equates to \$22.88 per member. Multiplied by 2 to bring us back to monthly, you get \$45.76, still well under the \$55 we are charged for the service. I'm no longer willing to let this decision remain unchallenged and hope others will not accept the same. I believe an explanation from the Board, to all HGFA members is warranted.



PS: The last copy of Skysailor was 3 weeks late – let's not start making excuses, it hasn't been on time for the last 12 months.

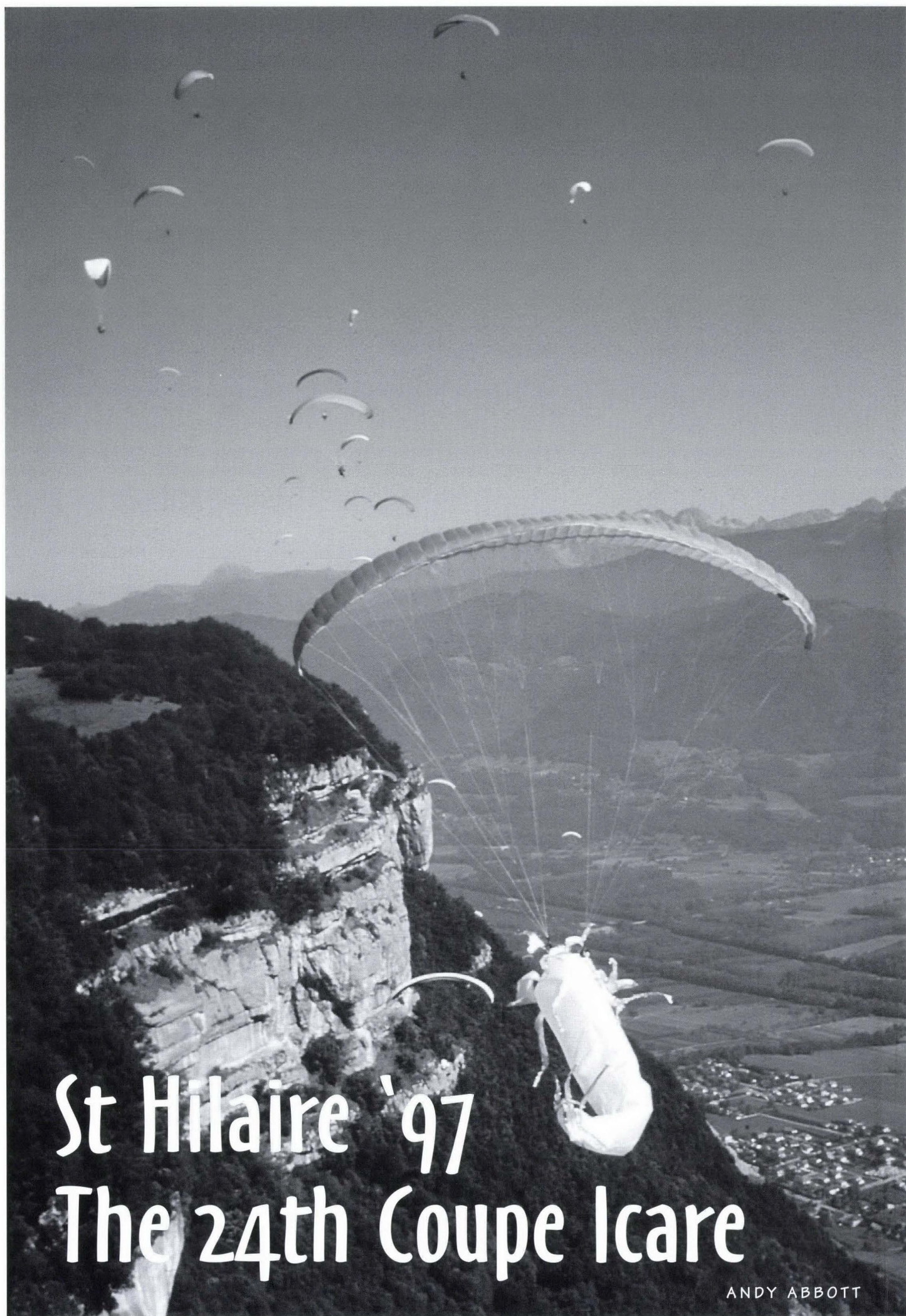
Andrew Medew

Actually Skysailor costs more than this, \$66k is the difference between production and distribution cost and what is recovered from advertisers. As for your assumption that multiplying by two produces a comparison figure: Production costs are not linear, particularly labour costs. The real issue is not Skysailor, but the environment in which all HGFA member services are delivered. Since the election of the Liberal-National coalition, the HGFA has lost approx. \$60,000 pa of its ongoing income. That's roughly 10% of revenue the year before last, 10% last year, 10% this year, 10% next year... and it's getting worse. To add to the loss of Australian Sports Commission funding, the Civil Aviation Safety Organisation (CASA) no longer provides funding for the safety functions we carry out on their behalf and, commencing this financial year, expects to charge us thousands for those services. We are currently fighting that battle and will soon know of the outcome.

We can't live beyond our means or continue to run a service at a loss. I myself regret Skysailor was cut to 6 issues per year, but better than 4, 3 or none at all. The Board has been forced to make some difficult choices, balancing on one hand cut-back or restructured services and on the other higher annual fees.

You're one of a small number who expressed dissatisfaction with the reduced Skysailor schedule. However, those decisions have been made across the full range of member services, not just Skysailor, giving the fairest possible balance to all interests. The Board chose to cut the number of issues, offset by an increase in quality and issue size in compensation (which you seem to overlook), rather than increase fees. Our options were pretty limited and the strictures will continue as our operations are restructured by forces beyond our control. Over the past 10 years we've delivered an extraordinary increase in services and quality without an appreciable increase in fees and the most common comment to me is that an increase is well overdue. Whilst the Board's last resort, we may be driven to it soon if CASA continues down its current naive and irresponsible path. I've not noticed the lateness, but given the deluge of mail I deal with I don't stand around at the letter box with a stopwatch and a pair of scales waiting for the postie.

Rohan Grant, HGFA President
Skysailor 3



St Hilaire '97 The 24th Coupe Icare

ANDY ABBOTT



Arriving in St Hilaire 3 days before the festival began was a good idea as it gave me some time to get acquainted with the site and also to meet up with some friends. They had been to south of France and Spain and I had just returned from the World Air Games in Turkey, so between us we had lots of flying stories to catch up on.

Already the town was a hive of activity with council crews preparing roads and parking areas and teams erecting the massive double marquee that was to be the home of the salon. The town was gearing up for its biggest weekend of the year. Being situated on the edge of a 400 metre escarpment above a large valley, St Hilaire is graced with 3 take-offs, one for hang gliders, one for paragliders and one for both, as well as a landing for ultralights. The town is also home to a very healthy school, teaching hang gliding and paragliding.

The Festival originally began in much the same way as the "Not the VIC Open", with a small band of enthusiasts organising a fancy dress competition. This same group of people is still organising the Coupe Icare today and with the full support of the town behind them it has grown into an event that draws 30,000 spectators over the course of the weekend!

The Film Festival nearly justifies the trip on its own. I had no idea so many films were being made, from whimsical amateur animations to full blown 90 minute documentaries, the only prerequisite is that it has flight as its central theme. We sat through two nights of films, from 8pm to after 1am, and saw in excess of 25 films to be judged. Although many of them were in French, it proved to be quite a gruelling, but also rewarding experience. The overall standard was very high and in nearly every case the film makers passion for flight was obvious. I only regretted that after seeing so many films in such a short time it has become difficult to remember them all.

The Salon is, like the Film Festival, on a grand scale. With about 80 retailers and manufacturers to choose from, the list of flying products vying for your money is considerable. Nearly all paraglider manufacturers were in attendance with a full range of gliders available to test free of charge. If you happened to be in the market for a new



Left page: The masquerade begins. This page: Richard Gallon throws it around a bit (left) and the 2nd hand glider market at St Hilaire (right). Photos: Andy Abbott

wing this was the place to try them out. The 2nd hand market was also represented with a stall acting as an agent to sell your old glider for a small commission. By the end of the weekend they had at least 150 on their books. These gliders were also available to test, however, a word of warning: Keep in mind that you're not the only pilot testing that hot new ship and like you, not everyone in the air will have the necessary skills on an unfamiliar wing to avoid collisions or accidents. This was brought home in a quite convincing manner as I witnessed an inexperienced pilot on a performance wing go negative and crash very heavily. This pilot earned himself a free ride in the rescue chopper and a 6 week stay in the local hospital. The accident occurred on the first day of the festival and totally destroyed that manufacturer's chance of making any sales for the weekend.

Not being a hang glider pilot I'm certainly not qualified to comment on what was available, except to say that the French manufacturers were in attendance along with the new rigid class wings and that there were at least 50 2nd hand gliders fully rigged and available for inspection in the area outside the salon.

The fancy dress flights were by far the most entertaining aspect of the festival and are the primary draw card for the non-flying spectators. Saturday is the day when you get your chance to dress to impress, if the judges like you, you are in the final judging on Sunday. There are so many weird and wonderful costumes and contraptions that to choose a winner surely must give the judges a few headaches. From the gossamer windsock-like creations to Laurel and Hardy in their jalopy, to the brave soul with his pedal powered forward paramotor, everybody had put considerable effort into their entry for the Coupe Icare. To top it all off, Richard Gallon and Sebastian Bourquin turned on a great freestyle display on both days reminiscent of some of the performances at Bright during this year's PWC. The highlight was undoubtedly Richard coming out of a loop at tree top height directly above the take-off and a Royal-Show-sized crowd.

The guest of honour at the festival was none other than Francis Rogallo who, at age 86, still lives for the concept of free flight and even though the last time he flew was on his 80th birthday, he is already planning for his 90th birthday flight – much to the concern of his wife and daughter. To meet a true legend of our sport and find him so approachable and generous with his time was a great honour and a memory I will treasure for many years to come (I wish I'd had Hamish with me to ask some genuinely insightful questions). Francis Rogallo's only request was that Australians not forget John Dickenson's sizeable contribution to the initial development of hang glider design.

If you want to see one of the great spectacles of free flight, try and get to St Hilaire some time. As soon as I can raise the cash I'm going again.

Thanks to all the guys at the school, the organisers, all at Le Chalet, Xavier Murillo and Thierry Crozzoli.



Why Paramotoring?

MICHEL CARNET

Reprinted from *Skywings*, June 1997, submitted by Jos Weemaes

Silver medallist in the 1995 FAI European Paramotor Championships, Michel is Chief Flying Instructor of the Sky Systems Flying School in Brighton, UK. Here he tries to clarify where paramotoring fits within the foot-launch aviation world, and answers some of the most commonly asked questions.

Everyone is talking about paramotoring. What is so special about it? One thing is for sure, the “aeroplane in the boot of the car” is catching the public’s imagination. There is no doubt that a paramotor is the minimum powered aircraft par excellence. Only the rocketeer’s backpack could beat it!

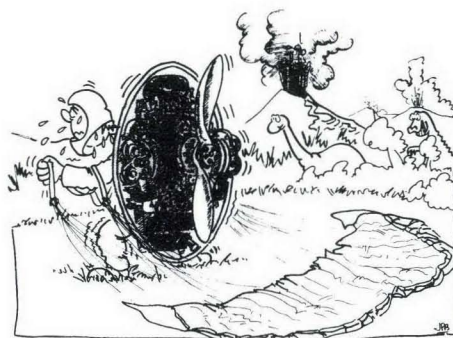
The success of paragliding is mainly due to slow flying characteristics and the absence of rigid parts. The air never hurts, only the earth (or contact with it) can hurt. So the ability to land slowly and safely anywhere with no airframe to bend is priceless. In aviation simplicity is safety, and remember: “What you haven’t got, weighs nothing and cannot break down”.

Foot-launching is a great asset. It is all terrain aviation: Pebbled or sandy beaches, ploughed or cropped fields, snow covered or flooded land and the roofs of royal palaces are all suitable surfaces for paramotor operations. The short turning radius, combined with slow flying speed makes even a cricket pitch size field surrounded by trees a safe place to fly from.

For the existing paraglider pilot, it is a practical add-on means of self launching: no need to drive miles to a crowded hill, chasing the wind or lift. The main advantage is that he or she already possesses the wing and knows how to fly it.

Of course it is not the real thing! Nothing can beat paragliding on the right day in the right place. Petrol smells, oil sticks, noise is a pain and the ozone layer is thinning. Saying that, driving 50 miles to a hill and burning 4 gallons of petrol getting there is surely worse than using a pint of 50:1 mixture around the corner for half an hour of thermal seeking on your airborne lawnmower.

The other useful side of paramotoring for purist paraglider pilots is the possibility to experiment with different conditions and locations: sea breezes, wave, over water or



Cartoons: Courtesy of Skywings

above clouds, etc. Flying onto an unlaunchable hill is great. Retrieving oneself is also possible. Self-sustaining and self-launching sailplanes exist for exactly these reasons. A paramotor allows you to do the same thing over flat ground. Chasing foxes and rabbits, following rivers, slaloming through trees, dragging a foot through powdery snow or long dewy grass is fantastic.

Where to fly a paramotor?

The main drawback with all powered flying is the noise pollution – not so much for your ears, but the neighbours’. It is essential not to spoil existing harmonious relationships which clubs and schools have enjoyed (or are struggling to keep) so far, by the nature of its environmental friendliness.

Consideration when choosing where you take off from and who you overfly is critical for the long term survival of paramotoring. It is easy for an individual to approach a landowner for permission to fly in small numbers. Paramotors should operate in a diluted format throughout the country and avoid overcrowded repeated buzzing around.

Which paramotor?

The first paramotors appeared in France and Germany in the late 80s. They used heavy, thirsty twin or 3-cylinder engines with direct drives. The 30+kg weight and unbearable noise made them unattractive.

With the increase in performance which recent generations of paragliders have had at their disposal less power is needed, so smaller, lighter 1-cylinder 2-stroke engines can be used, resulting in weight reductions to under 20kg. Reduction drives allow larger, slower spinning propellers (or more blades) to be used, thus reducing noise and increasing thrust, but unfortunately adding a little weight.

The propeller’s design is important. Wood is the most common material, while plastic, composite and aluminium may also be used. A multitude of forms and tip shapes are used with various degrees of success. In any case a balanced propeller is essential to avoid vibrations and damage to the reduction assembly.

Most paramotors used to be cantilevered, and some still are. This means they have rigid suspension arms from which the pilot hangs, forward of the paraglider attachments. This compensates for the weight of the engine. The advantage of this system is to relieve the pilot off the weight of the paramotor once airborne. The drawbacks are a higher hang point than when paragliding, preventing you from reaching big ears or sometimes the brakes and, most critically, a more difficult inflation.

Some paramotors simply hang on the back of a paraglider harness, with the pilot carrying the extra weight on the ground as well as when airborne: short flight guaranteed!

Various systems have been tried to find a compromise between a low paraglider hang point and suspension of the paramotor, such as under-arm cantilevers. However, the higher centre of gravity may decrease the pendular stability and amplify the torque effect: nicer if underpowered.

A very popular system used by various manufacturers is to plug the paramotor onto rigid tubes which attach to each side of the harness at chest level, with shoulder attachments to stop the paramotor swinging back.

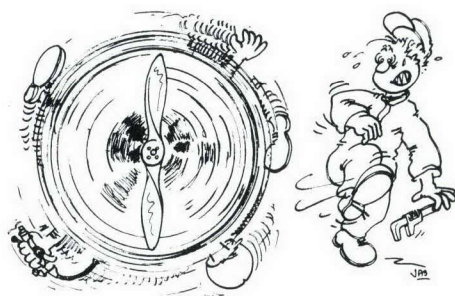
This system allows good access to the risers and offers comfort on launch and when airborne.

Early paramotors had protective frames in front of the pilot to prevent him being crushed in the event of a forward crash. In practice, people tend to fall backward, if at all, so these frames have almost disappeared.

The cage prevents the suspension lines getting caught in the propeller during launch or in the event of a canopy collapse. The netting is only needed in front of the cage, as the blown air behind keeps the lines at bay. A smooth cage periphery allows the lines to slide upwards easily for successful canopy inflation.

The torque effect: Most paramotors use counter-clockwise (looking ahead) rotating propellers. Each propeller blade creates lift (thrust) as well as drag. The drag element also makes the paramotor want to rotate around the propeller. This means that as you open the throttle the paramotor will rotate clockwise, resulting in lowering the right risers, inducing a right hand turn (similar to a weight-shift harness turn). The larger and less efficient the propeller, the greater the torque effect.

A consequence of the torque effect is that you may have to apply some left hand brake to fly in a straight line, and you may have to accept to gently turn right while on a full power climb. Obviously a clockwise rotating propeller will have the opposite effect.



The hand throttle normally includes a cut off switch and the electric start button, if fitted. A left hand throttle is preferable for two reasons: Your right hand is free to take pictures (there are no left hand cameras!) and your left hand may be busy anyway on the brakes to compensate for torque. Mouth-throttles are sometimes used and incorporate a mercury switch to cut off the engine when the throttle is dropped.

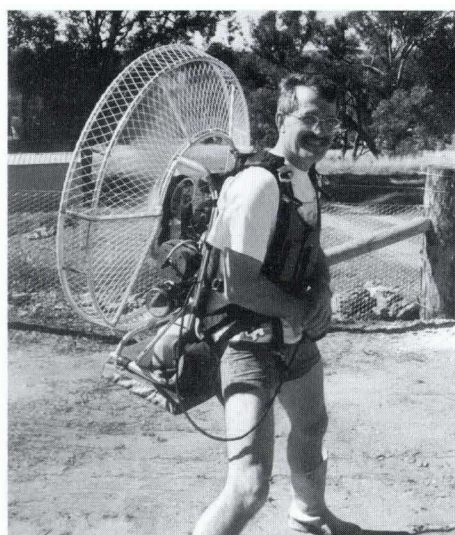
An electric start has a lot of advantages: It's nice to be able to switch off in a thermal and restart later. The ability to start the engine when standing up ready to go is also very useful. Without it, if you are on your own, you need to hand start the engine on



Left: Jos has been flying paramotors since early 1994. Here he is doing battle with an early, direct drive, 30kg model. The steel frame surrounds the pilot to prevent him from being crushed in the event of a forward crash.

Below: A more recent design with two cylinders, reduction drive and weighing only 20kg.

Photos: Jos Weemaes



resulting in a bum landing with the full revving propeller digging trenches. In this instance a clutch cannot help.

Integral moulded petrol tanks have the advantage of high capacity and space/weight saving. There is an argument for not having a plastic tank just above the hot engine and exhaust, for obvious reasons. The ability to close the vent of the petrol tank while transporting it in the car is essential. A float carburettor has the same problem of petrol drip and smell, unlike the fully sealed diaphragm carburettor.

Fuel economy is very important. Not just for the running cost, but for the fact that the amount of fuel needed for a long flight is extra weight on launch (10l = 7kg). Air filters are commonly used, sometimes with air intake mufflers which also reduce noise.

Which size paramotor?

The maximum glide ratio (lift/drag) of your glider is the same ratio of weight/thrust needed to fly level. Remember the cage will reduce your paraglider's maximum glide ratio. So a typical total flying weight of 120kg with a 6:1 paraglider requires 20kg of thrust to maintain flight. Obviously temperature, pressure, altitude, humidity and optimistic manufacturers' figures affect this theoretical equation.

Manufacturers will certainly carry on developing the impossible compromise of weight/power/cost/fuel economy to the limit. However, it is prudent to settle for a well-proven, well-tested system. Some manufacturers will experiment with new ideas or components directly in their production lines, without a test program, then wait for the phone to ring to see which idea works and which doesn't.

Which paraglider?

Most paragliders are suitable for paramotoring with a few notable exceptions. However, a canopy which is easy to inflate is essential.

The biggest misconception is that you need a larger paraglider. Traditionally, paragliders have a very narrow certified weight range as sink rate is dictated by canopy size. Afnor load tests allow a weight

the ground (with the paramotor not blowing the paraglider away), sit in the harness, strap yourself in, stand up, sort out brakes and risers, then go. Not as easy as it may sound. Most engines have a minimum electrical system – just enough to provide a spark. Electric start batteries are typically Ni-Cads, charged from the mains. Some manufacturers claim that their paramotor can be hand/foot started in the air. Although it may be possible to do in ideal conditions, in practice it often doesn't work and can even be dangerous if back-firing. Various types of de-compressors help with the starting of engines, manual or automatic.

Some paramotors have centrifugal clutches, meaning that only when power is applied will the propeller rotate. The idea is that a light flexible cage can be used, allowing the odd crash without bending the cage and exploding the propeller. However, a flexible cage can be tricky. When leaning forward too much on inflation against the suspension lines, a flexible cage could deform back and come in contact with the propeller. A full frontal deflation under power is also the ultimate test for the cage. The most common crash on a paramotor is when the pilot lifts his or her legs too early on take-off,

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Why Paramotoring?

range with a ratio of 1:3 max/min, which would for instance be: 100-130kg all up weight. The glider must then resist 8G ($8 \times 130\text{kg} = 1,040\text{kg}$). Often the tested paragliders go well over the required load.

If your paramotor took you 20kg over the weight limit, you would have come down to 7G to give plenty of reserve. When winching with a 100kg pull, you could come down to 4.5G, and yet winching is accepted as safe on these terms. All these theoretical measurements apply to a brand new canopy. Ageing materials will have an effect on overall strength.

Another argument to demonstrate how one can fly safely well over the recommended weight range: Some manufacturers use extrapolation between the various canopy sizes, meaning the larger size is an exact model of the smaller size but with every part larger, as opposed to adding more cells. With extrapolated models, manufacturers use the same number of cells and lines of same thickness, whichever the canopy size.

Like in all powered activities, speed is everything and a smaller canopy will not only facilitate ground handling, but also increase ground speed and range. In practice, the paraglider you use for paragliding is the one you should use for paramotoring.

Normal Afnor certification does not cover power effects and therefore one must accept some degree of pioneering when paramotoring.

Power effects

The main problem is that thrust is applied to the pilot, not the wing. When a paraglider is designed, the drag given by the pilot is unfortunately affecting the overall geometry and trim. If you could magically remove the drag of the pilot, the canopy would hang back and need re-trimming.

In effect, this is what happens when you apply thrust, you cancel the drag. So when climbing, not only is your attitude (angle canopy/horizon) greater, but so is your angle of attack. Furthermore, with the line of thrust being angled upwards, your apparent weight (resultant weight and thrust) will decrease, thus unloading the wing while the weight of the canopy remains the same! This contributes further to an increase of the angle of attack. One may experience some oscillations or Dutch roll. The use of speed trims or stirrup under full power is useful to bring the canopy back to a correct trim.



With the engine switched off, the extra drag of the cage does the opposite, i.e. allowing the canopy forward to a faster trim.

The torque effect is the first thing one notices. The canopy may want to turn right (counter-clockwise propeller) as if weight shifting. Right brake must be applied with moderation or else you will perform a wingover. Left brake must also be applied with moderation to prevent a spin. An easy answer to unpleasant power effects is to simply reduce power!

Some simple devices can reduce or eliminate the torque effects such as a diagonal adjustable cross-braced strap, a longer carabiner to the right riser or asymmetrical speed trims.

Additional hazards

Noise is obviously a problem not only for your neighbour 1 mile away, but your own ear drums a foot away. Ear defenders are essential.

Nobody really knows what the effects of petrol or oil on the canopy, the lines, the harness, parachute, etc are. The vibrations of the paramotor may affect your fasteners: quick links, parachute release, pins, etc.

The high revving propeller presents an obvious danger, not only to you but also to the public. If the propeller breaks while airborne (for instance following damage on launch) there is a risk of structural damage to the wing.

Extra line from the brake handle must be tied or cut to avoid hitting the propeller when forward inflating.

After landing, one must resist the temptation of carrying the canopy over one's shoulder if the hot exhaust is on that side!

Finally, a paramotor allows you to fly through the wake of your own wing and propeller with possible unpleasant bumps and an horrible exhaust smell.

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IN THE TRADITION

CHRIS SALMON

Moyes 30 years

Three world renowned hang gliding manufacturers and their respective pilots in harmony under one roof. An idealistic vision? A pilot's fantasy? Perhaps not. The location: Bronte Beach – one of Sydney's most spectacular inner-city beaches and the home of Bill and Molly Moyes where international boundaries and glider alliances fall away. During the 1998 Worlds, Gerard Thevenot and his world champion prodigy, Guido Gehrman (La Mouette), Josef Guggenmos and Bob Baier (Guggenmos), along with the Moyes clan, all revelled in the long standing hospitality of the Moyes household as Aussie surfers strutted their stuff outside, on the waves of the Pacific Ocean.

For 30 years Moyes have been selling gliders, and for 30 years pilots from all corners of the world and all walks of life – competitive and recreational alike, have enjoyed the hospitality of the Moyes place of residence that Malcolm Jones of Wallaby Ranch refers to as the Moyes "Hilton". Molly Moyes recalls one particular balmy summer's night when there were 8 Brazilians in one room, 10 Japanese in another and 8 Russians in yet another – almost enough of an international contingent to pass a UN resolution.

It has always been that way. The now famous Moyes "open arms policy" started when Bill Moyes sold his first glider in 1967. So exhilarated was he that he brought the happy customer home for dinner. Molly's mother, Phyllis (one of the few women apart from Molly able to keep Bill in line), responsible for feeding yet another guest, was quick to point out that, "The department store never

invites me back for dinner when I buy my groceries!" Another time Bill went to Sydney Airport to pick up a Greek pilot who never arrived. Unperturbed, he instead carted home three weary Japanese travellers straight off the plane who weren't even pilots but ended up staying the night.

Bill took up flying, what he considered a natural extension of water skiing, at the ripe old age of 30, much to the horror of Molly who, when informed of Bill's intentions, could not look upon the faces of her five children without having nightmares of them becoming fatherless. One night, hoping to dissuade Bill from being towed up to ridiculous heights behind his boat, Molly hid his sail. Bill went on a rampage trying to unearth it and caught the attention of daughter, Debbie, who dragged the sail out from behind the couch asking innocently, "Daddy? Is this what you're looking for?"

Bill and Molly have known each other for close to 57 years. Married at the age of 17, Bill began plying his trade as an autoelectrician during the day while working nights packing shelves in the fruit shop that he and Molly owned. Not long after he rented space in Waverley to begin his own autoelectric garage on which premises Moyes Delta Gliders was eventually born. After working 7 days a week for a few years, Bill started buying the properties surrounding him. Those investments along with a thriving business provided Bill with an independent income, enabling him to make flying machines as a hobby and enjoying it as one.

Despite Molly's initial protests, Bill continued flying and soon appeared in air shows all over the world being towed up by beach buggy to a few hundred feet above the crowd. The miles clocked on the road were staggering. In North America alone Bill and Molly sometimes travelled 1,000 miles overnight, covering 26,000 miles in total in under 6 weeks while visiting fairs in Alberta, Saskatchewan, Manitoba, North Dakota, Iowa, Minnesota, Michigan, Ontario, Nebraska and points in between.

At the tender age of 14, Steve Moyes was recruited as Bill's winchman at the Royal Easter Show in Sydney, displaying his trust in his son. Steve began his flying career at much the same time. Typically, Bill would drag Steve from bed at 4 o'clock in the morning so that they could tow up over Botany Bay – a feat no longer possible since jet aircraft traffic from the two North/South runways now runs into the bay from Sydney's international airport. Back then, Bill and Steve would get a few hours flying in before Molly would rush in to take Steve to school.

As the sport of hang gliding began to gain momentum, Bill, Steve and Molly scoured the world seeking fellow pilots. One of the first truly international fly-ins was held in Austria in 1975. Even in the sports infancy, hang gliding manufacturers were extremely competitive. On examining the European gliders, Bill was quick to modify his arsenal to gain a competitive advantage. The giant technological innovation: A bunch of ice cream sticks sewn to the trailing edge by Molly in order to decrease the flutter of the sail. Certifying organisations were not yet regulating such "innovations".

Steve turned his hand to the autoelectronics business and secured his trade papers, but his passion for flying was already inflamed to such an extent that he found interest in little else. It was much more stimulating working alongside Bill building exciting flying machines than to work on vehicles which had already been around for 90 years and were destined to remain grounded. This was the early 1970's when world champion surfers like Nat Young and Midget Farrelly were surfing beaches buck naked while philosophising about post-Vietnam freedom. The idea of flying off the headlands of those same beaches seemed to fit right in with the whole era.

At the age of 18, Steve was competing worldwide and on the way to becoming the most prolific competitor ever. Drawn into discussion about his many achievements, he is quick to heap praise on other pilots such as John Pendry and Tomas Suchanek. But for a pilot who has competed in every hang gliding world championship ever held, he has become one of the world's most experienced pilots. With a career spanning 31 years, he still continues to fly competitively with the key to his flying longevity obvious to those who fly with him: He designs safe gliders and flies safely in them.

The working relationship between Bill and Steve was well portrayed in the award winning documentary "The Birdmen of Kilimanjaro", for which both received the Advance Australia Award. Father and son argued all the way up the mountain, but still reached their goal of making it to the summit, launch into the thin air and fly successfully to the bottom. That was, and still is, their real strength – the fact that everyone has different personalities. Bill is the consummate wheeler dealer, either befriendng or alienating those he comes into contact with; Steve is the more reserved with a feel for the air that borders on bird-like, as well as being able to translate those feelings into design. Steve was the main catalyst to the creation of the biggest selling glider of all time – the Xtralite. The emergence of the Xtralite also highlighted another reason for Moyes' longevity and success: The ability to embrace extremely talented individuals into the Moyes family. The intelligence and incredible flying skills of Tomas Suchanek, a four time world champion and key designer; Juan Corral, a remarkably gifted individual with a creative flair for design and a loyalty that has served Moyes well; along with others not so well known, those responsible for the production of sails, gliders and harnesses day-in, day-out.



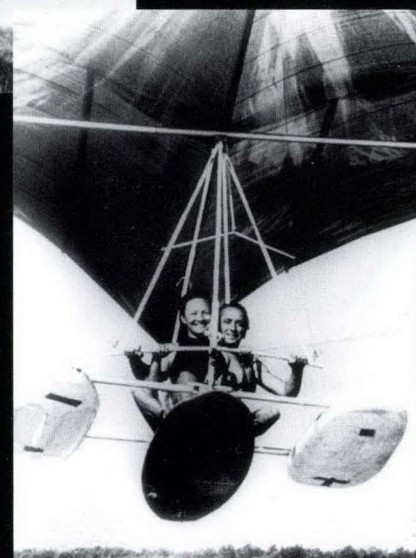
Top: The Moyes Family.

Above: Bill at the Sydney Showground.

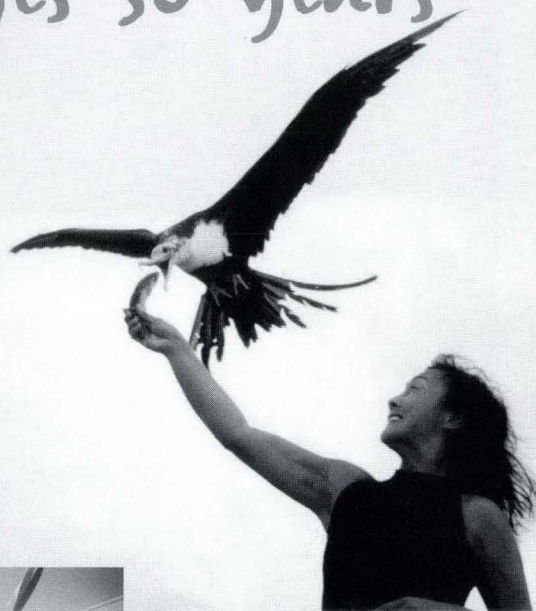


Above: Steve launches at Stanwell, the Moyes testfly site.

Right: Bill and Molly sharing flight.



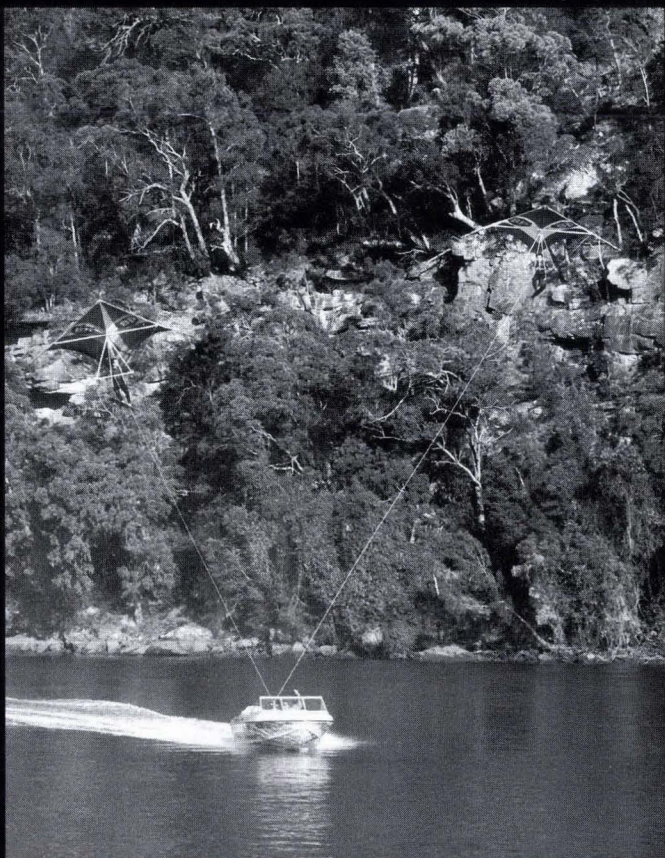
Moyes 30 years



Above: Molly feeding the Moyes mascot, the frigate bird.

Left: Steve Moyes 30 years later and still competitive.

Below: Bill and Steve being towed along the Hawkesbury river.



In recent years, Bill has stepped back from the helm and handed control over to Steve and Vicki Cain, Steve's younger sister and fellow director. For all the expertise Moyes has in design, the heart of the company emanates from the Moyes women. Vicki has become the face and soul of the company as the main point of contact for most who deal with Moyes. It is she who now has an open house policy towards overseas guests, much to the chagrin of Greg, her ever-tolerant husband. There was the time when an eager German pilot broke his collarbone on his first flight at Stanwell Park: He was invited back for dinner and stayed the night because Vicki felt sorry for him, seeing that he still had months left of his holiday.

Another time a Moyes dealer came to Australia to pick up gliders and

left three months later, staying at Vicki's place the entire time. With Jenny, Vicki's younger sister in Accounts, and Molly bringing lunches, the spirit hasn't changed much since Bill sold his first glider. Although the company has grown beyond a hobby, the feel of it still remains.

Just as many have joined the Moyes family, some have left as well. Icaro, now a major manufacturing force in its own right, was once the European arm of Moyes gliders. Rick Duncan, one-time world champion flying the Moyes GTR, left the camp to start up Airborne and manufacture trike wings and hang gliders. Recently, the relationship between Moyes and their sailmakers of 20 years ended. Such changes also stimulate the company. In-house sailmaking was a natural progression for a manufacturer intent on competing on price in the global market, new competitors such as Icaro and Airborne have made Moyes less laid back and more business orientated.

As with any company that has been around for as long as Moyes, there is a time for every season. Some seasons have been good, others not. After the heady years of the Xtralite, 1996 was close to Moyes' worst year ever. With the emergence of the topless gliders, they were forced to quickly roll from one R&D project (the SuperXtralite) onto another with the development of the CSX. However, in 1997 Moyes diversified and expanded their product line to include a new single surface glider as well as a new intermediate glider, therefore becoming less susceptible to the dynamism of the high performance market.

There are still considerable challenges ahead for all hang gliding manufacturers. With low growth rates in the sport and fluctuating currencies, markets are tight. Nevertheless, foot-launched flight is still flying in its purest form and hang gliding is returning to the days when daredevil pilots like Bill towed aloft. Previously unflyable mountainless regions are opening up. Thankfully, the means by which Bill was towed and the gliders he flew have improved substantially since then. The challenge facing today's manufacturers is to not lose the purity of the sport, while still maintaining the qualities of performance, handling, and safety.

A score of loyal followers too numerous to mention here have helped Moyes grow and develop through the years. In their own words: "Since 1967, Moyes Delta Gliders has strived to be on the cutting edge of developing hang gliders of the highest calibre. A family-owned business operating under homespun values, we aim to provide a comprehensive international network to service all pilots. Even further, we work with some of the best pilots in order to improve our gliders' performance, handling and safety."

To Stop and Thermal, or Not to Stop and Thermal...

BOMBER

Have you ever been faced with the situation when flying headwind and hitting lift, you wondered if it was worth stopping to climb in? Well I have.

I have experienced this competing in the two previous WA State Comps and found myself leaving 600ft/min thermals because I thought I was drifting back too much, only to hit the deck. Before the comps this year I decided to sit down and work out the maths for this and came up with some very surprising results.

Assumption for my calculations

I won't bore you with the maths unless you'd like a copy of my calculations (mthompso@wcagper2.telecom.com.au), but I'll provide you with the gist of my thoughts:

1. I climb in a headwind and am drifting backwards. As such I have a positive L/D going backwards. The L/D is given by my drift backwards and my climb rate and as long as this backwards L/D is greater than my forward L/D gliding into wind, I will achieve a net gain along the course line.
2. For various headwind conditions (e.g. wind speeds which I can calculate from the difference of my GPS ground speeds and my airspeed indicator) the best L/D, airspeed and sink rate can be calculated. The resultant L/D into a headwind is given by solving the intersection of the gliders polar curve (my thanks to Chris Arai) and a straight line passing through the airspeed axis of the polar curve at the corresponding wind speed value.
3. Once I know my best L/D in certain headwind conditions, I can calculate the thermal strength I need to give the positive L/D backwards. The results are as follows:

Headwind (km/h)	L/D	Airspeed for best L/D (km/h)	Climb rate (ft/min)
5	10.6	45	50
10	9.3	46	100
15	8.0	48	150
20	6.8	50	200
25	5.7	52	300
30	4.7	56	450
35	3.9	60	650
40	3.2	65	850

I added a percentage onto the climb rates to allow for the fact that it takes time to centre and we all fall out of thermals now and again.

What surprised me was how low a climb rate is required. I had the opportunity to test these figures during the WA State Comp this year. On the first day of the comp the task was 105km from Wylie to Goomalling turnpoint (60km), then on to Northam (45km). The last 45km were into a 10km headwind. I reached the turnpoint at 4pm after leaving the paddock at 2.45pm. Just past the turnpoint I was down to 1,500ft and went through a weak thermal (100ft/min). I started circling and drifted backwards at a significant rate. At that time I thought twice about gliding forward and hitting the deck or staying with the thermal. However, another pilot joined me, so I decided to test my calculations. The thermal got better, peaking at 400ft/min, which was 300ft/min more than my calculations told me. Sure enough thermal by thermal we got closer to goal finally arriving at 6.30pm. Normally in such a headwind I would not have bothered to circle unless I was going up at least 400ft/min plus.

I now use these figures all the time and have even begun to think they could be on the conservative side due to my general observation that thermals tend to drift slower than the wind speed. I hope these figure are of use and seek any feedback from other pilots.

HGFA merchandise

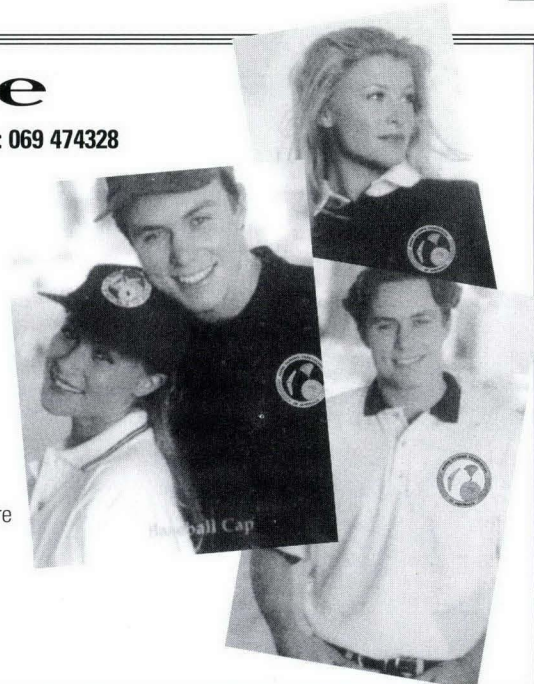
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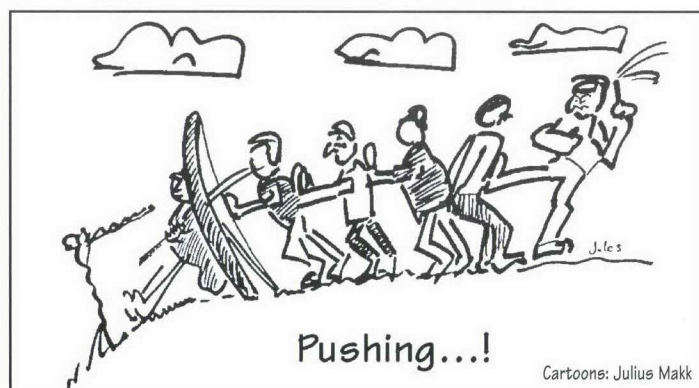
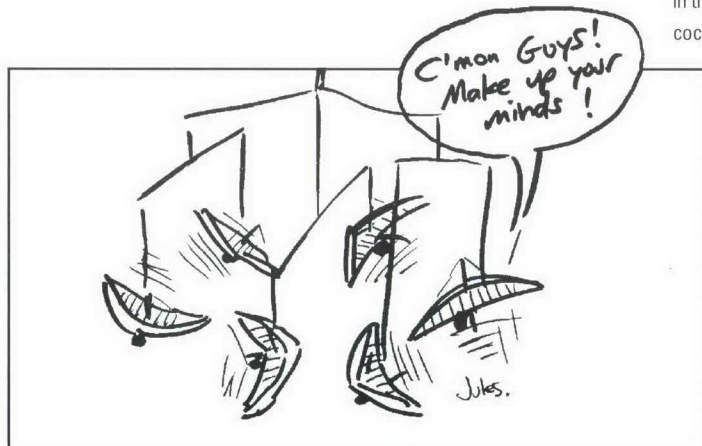


Competitions & Events

Event	Date	Venue	Details & Entry Requirements	Contact
Australia				
1998 Micro/Ultra/Mega Fly-In 	14-16 Aug 98	Tumut Aero Club, NSW	30km from Gundagai. Registration: Fri evening. Join in nav exercises, flying accuracy, simulator flying, lectures on flight & radio, 60's social theme in evenings at the Club house. 3 large hangars for all aircraft, free camping is available with help-yourself-meals.	Ben Dumbrell ph: 0417 262330.
Motor-Paragliding Lockhart Fly-In 	12-13 Sep 98	Lockhart, NSW	The objective of this fly-in is to have fun, meet other para-motor enthusiasts & promote the sport. Everybody is welcome, even if you're not in the sport yet. The site offers an excellent hill with vehicle access, omni-directional take-off & plenty of landing. The venue is a Jeff Hoffman's property at Lockhart, north of Albury & west of Wagga Wagga. Short XC flights as well as fun flights are planned, other activities incl. bushwalking, caving at Rock Hill & Galore Hill & horse riding. Registration: Fax your name, ph. number, address, fax or email & number of participants to: 02 60268658. Briefing & breakfast: 8-10 am Sat morning. All food has been catered for (\$50 pp), accom. in Lockhart or free camping on-site. For directions & more info, contact the organiser.	Jos Weemaes ph: 02 60265658 (h), fax: 02 60268658, email: jweemaes@albury.net.au
Canungra Classic & SE QLD Titles 	10-17 Oct 98	Canungra, SE QLD	Entry fee: \$100 (incl. map & 3 films). Site fees: \$35. Registration & Calcutta 9 Oct. Open, B, C Grade, Masters & Ladies trophies. Requirements: Int or higher, databack camera. GPS recommended. Closing date for entries & full payment 31 Aug 98 (Late fee \$30).	Tim Cummings, PO Box 116, Canungra 4275, ph: 0418 778422, email: tim@eis.net.au
Dalby HG Competition 	19-23 Oct 98	Dalby, QLD	One of Australia's prime thermalling locations (96 Sailplane Nationals held here). Has a superb road network, full of friendly local land owners, excellent airstrip on the edge of town, great pubs, shops, motels, restaurants. Practice day: 18 Oct, for those pilots requiring aerotow endorsements. Reserve day: Sat 24 Oct. "Pay before ya tow" basis, \$15 a tow. Requirements: Databack camera, aerotow bridle & aerotow endorsement. Entries: Limited to 40 pilots. Entry fee \$80 (by 20 Sept) incl. map & 1 film, late fee +\$30. HQ & Accom. at Russell Hotel \$15 pp/pn incl. breakfast. Book early! Ph: 076 622122, fax 076 624951. We'll have a marquee for sun protection, bring a chair & big hat.	Fee payable to: Conondale HG Club, 13 Cottman St, Buderim QLD 4556 Dave Redman ph: 07 32024392, email: redfella@odyssey.com.au Phil Pritchard ph: 0418 761193
 Forbes Flatlands 98	29 Dec 98-5 Jan 99	Forbes, NSW	Entry fee: \$200 payable by 6 Nov. Registration: 28 Dec. Tow endorsement & HGFA m/ship essential, excel. prize money.	Vicki Cain ph: 02 93164644. Cheques payable to: "Flatlands 98"
 Kiewa Valley Fly-In	27 Dec 98-2 Jan 99	Mt Beauty, VIC	Entry fee: \$15 payable on arrival.	J. McLaren ph: 03 57544910, email: jmclaren@albury.net.au
Inaugural Sky Surfing Extravaganza  	27 Dec 98-2 Jan 99	Laurieton, NSW	\$5,000 in sponsored prizes. To enter you need to fly either a PG or certified open crossbar HG (e.g. Mars 170, etc). Event based on accuracy, take off & landing skills. Covered by media, large crowds anticipated. Entries limited to 50. Entry fee: \$50, incl. lifts & presentation dinner.	Lee Scott ph: 02 65565265, email: highadv@midcoast.com.au
1999 Bogong Cup 	7-16 Jan 99	Mt Beauty, VIC	Entry fee: \$195. Registration day: 6 Jan 99. If less than 90 entries have been paid for by 4 Dec 98, the comp will be reduced to 65 entrants with all others refunded, shortening the comp to 8 days. So get your entry in now!	J. McLaren ph: 03 57544910, email: jmclaren@albury.net.au Cheques to: Bogong Cup, PO Box 313, Mt Beauty VIC 3699.
Corryong Cup HG Competition 	17-23 Jan 99 (incl.)	Corryong, VIC	Strictly 55 pilots. Requirements: Int-Adv rating with inland exp., camera, altimeter, UHF radio, recently repacked parachute, maps, current HGFA m/ship. Entry fee: \$60, incl. presentation night, BBQ during comp, numerous prizes. Categories: Open (all competitors) & entry level or Int gliders (Floater, XT, Aero, Sting etc).	Ruth & Graeme Garlick
Alpine Open PG Competition 	21-31 Jan 99	Bright, VIC	Registration deadline: 11 Jan 99. Entry fee: \$145. Late entry fee: \$195. 8 Rounds with Sun 31 Jan reserved as emergency day to be used if the leading pilot has less than 4,000 pts after finalised scoring on Sat 30. Closing ceremony: 31 Jan 99. 1 Group, A & B (DHV2) Grades, Min. rating: Restricted.	Alpine Open 1999 - Paragliding PO Box 238, Bright 3741, fax: 03 5750 1153, email: alpcomp@netc.net.au

Competitions & Events

Event	Date	Venue	Details & Entry Requirements	Contact
Australia				
 Australian Open HG Championship	22-29th Jan, 99	Wyalkatchem, WA	Entry fee: \$250 (\$220 if paid by 1/12/98), map & films provided. To reserve place mail \$20 deposit to Western Soarers HGC, PO Box 6, Nth Fremantle, 6159. Open, B, C & Ladies trophies. Requirements: Tow endorsement, databack camera, UHF radio, GPS recommended. This is a flatlands comp, so a dolly for towing is also highly recommended. Info pack on accom., hire of vehicles, drivers, transport of self & glider to WA available from organisers.	Sam Blight 08 93363738 (day), Gordon Marshall 08 94519969 (h) http://argo.net.au/garyb/index1.htm
 1999 Victorian HG Open	7-13 Mar 99	Corryong, VIC		Wesley Hill 018 305943, email: whill@nm.com
Overseas				
 European Championships	27 Jul-8 Aug 98	Podbrezova, Slovakia		Dusan Svantner ph: +42 1867 6051483
 Colombian International	Early Aug 98	Roldanillo, Colombia	3 launches, 1,200-2,400m cloudbases, big thermals & no turbulence! Entry fee: US\$100. Retrieval service: US\$50. Accom. \$6-\$80 pn, transfers from Cali to Roldanillo free.	Carlos Rizo email: arizo@impsat.net.co
 German PWC	4-9 Aug 98	Garmisch-Partenkirchen, Germany	Max. number of pilots: 150.	PWCA office fax: +33 450 644097, email: fescriba@cyberaccess.fr
 Canadian HG Nationals & World Cup X/C & Speed Gliding	5-10 Aug 98	Sun Peaks Resort, Mt Tod, Canada	HPAC membership & HAGAR required. Registration fee: Before 5 Jul 98 \$0, after 5 Jul 98 CDN\$25.	http://www.interactive-ad.com/hanggliding/
 Invitational Løkken 98	12-16 Aug 98	Løkken, Jutland, Denmark	PWC special event beach race & touch & go More info at www.The18thHole.com/Paragliding/lokken98.html	Birger Ulbrink, email: BirgerUlbrink@image.dk
 1998 Women's World HG Championships	13-23 Aug 98	Dunaújváros Airfield, Hungary	Aerotowing comp, rules available from the FAI. Entry fee: US\$500, incl. 1 aerotow for each competition day, FAI sanction fee, camping (toilets & hot water showers), hot food at favourable prices, pick up info service, free participation in all official programs.	HGFA 02 69474328 or Hungarian Aeronautical Association, H-1093 Budapest, Lónyai u. 44, ph: +36 12170351, fax: +36 12177222 email: ordody@mail.matav.hu
 NZ Speed Gliding World Cup	6-12 Sept 98	Coronet Peak, NZ	Entry fee: NZ\$175. 3 practice days prior to competition.	Geoff Dossetor, Paul Chisnall, xtr77110101@xtra.co.nz
 1998 Maninjau Fun Fly-In	5-13 Sept 98	Maninjau, West Sumatra, Indonesia	HG & PG event at one of the best locations in Indonesia, take-off height 900m. 9 days, 8 nights accom. & flying at Maninjau Lake US\$300pp, twin share, incl. hotel transit stay in Jakarta, airport transfers, transport, cottage style accom., b/fast, flying & city tour. 10 Australian pilots are offered the event at no cost. Return airfares from Australia-Jakarta-Padang-Jakarta-Australia not incl., can be booked through Garuda Indonesia at reasonable cost. Other activities: swimming & hiking. Landing: In front of a lake, near a holiday development frequented by tourists.	Anwar Soerjomataram ph: +62 21 8841915, fax: +62 21 7970924 email: anwisata@cbn.net.id or Ian Jarman 02 69472888 www site at http://flies.com/indonesia/~sumatra.htm
 7th New Caledonia Open PG Championship	23 Oct-1 Nov 98	Dzumac & Ouazengou, New Caledonia	Take-offs: 30 & 400km from Noumea. Pilots from French Polynesia, NZ, Australia, Japan, France & other European countries welcome. Entry fee: XPF20,000 (about AU\$285), incl. registration only, films & developing, site maps, buses to Noumea/Kaala-Gomen (400km, return) & launch, 4 days in the Nthn Province (b/fast, lunch, dinner & night), welcome cocktails & prizegiving ceremony. More info on page 17.	email: avlnc@yahoo.com Return pre-registration form to: AVLNC, Box. 309, 98845 Noumea Cedex, New Caledonia, ph/fax: +687 249009, email: avlnc@yahoo.com



NEWS

New HGFA office email address

The national office and Ian Jarman can be contacted at: hgfa@tpgi.com.au

Soaring Flight www site

A new page on hang gliding, sailplanes, paragliding, etc, can be found at www.geocities.com/CapeCanaveral/Launchpad/1966/

Always under construction with more articles, links and information to be included.

Alejandro Isaza

Edge X www site

www.ozemail.com.au/~aerial/srcbook/hpages/edgex.htm

GPS accessories for sale

See the site at www.ozemail.com.au/~bsommer/GPS.htm for more information or email bsommer@ozemail.com.au

Brian Sommerville

Paragliding harness using the Get Up system

Italian manufacturer, Woody Valley, now include the Get Up system in their X-press harness, to avoid accidents due to missed leg straps. For more information about the system look at www.theo.it/getup/getupin.htm

Paolo Gavelli

New provisional FAI World Record attempts

Paragliders: General

1. *Straight Distance*: 288km

Site: Hobbs, NM (USA), 30/5/98, Will Gadd (USA)

Paraglider: Firebird Cult

Current record: 283.9km (A. Louw (SA), Apco Astra 30C, 31/12/92)

2. *Speed over a 100km Out and Return*: 18.68km

Site: Gnadenwald, Tirol (A), 2/6/98, Burkhard Martens (D)

Paraglider: Free-X Flair

Current record: No record set yet

Hang gliding: Feminine (single place)

1. *Straight Distance*: 350km

Site: Location to be advised, 19/6/98, Tiki Mashy (USA)

Hang glider: Type to be advised

Current record: 335.8km (K. Castle, USA, Wills Wing AT145, 22/7/91)

2. *Straight Distance to a Declared Goal*: 305km

Site: Location to be advised, 19/6/98, Tiki Mashy (USA)

Hang glider: Type to be advised

Current record: 212.5km (L. Mallin, Ireland, Magic 4, 13/7/89)

Rigid wing hang glider: General

Straight Distance: 403km

Site: Hobbs, NM (USA) to Texline, TX (USA), 3/7/98,

Ramy Yanetz (USA)

Hang glider: Bright Star Millennium

Current record: 230.2km (W. Woodruff, USA, Vector 156, 26/6/93)



Far left: PPP as most of you will know him.
Photos: William Olive

Left: New hi-tech windmeter and temperature gauge from Silva.



The new Moyes Contour harness.

Being for the benefit of Mr. Kite!

Most of you will know now of Pete O'Loughlin's (PPP's) collision with 11,000 volt powerlines on landing in April, and his four-limb amputations resulting from that. PPP has accepted his situation, is happy to be alive and, showing his usual quiet determination, is aiming for full four-limb prosthetic mobility and activity. He's presently undergoing intensive rehabilitation, but he aims to get back into flying and surfing before the year is out. It will be a surprised shark that nibbles on an arm or a leg now.

PPP has been flying for about 6 years and expects to keep flying for a long while yet. He's shown the necessary commitment to the sport, eg giving up girlfriends who don't drive. He doesn't mind trying something new – for example, he was one of three pilots who did triple tows (we named it after him) behind a Landcruiser on the Burketown saltflats last year. (With three strings off one car, you don't need a trike to get three pilots onto one wave. Don't try this in thermal air!) His willingness to try something new is going to be useful now.

Naturally there'll be a few changes. It's a bit of a challenge to fly a hang glider without elbows, so it'll be a modified glider (sailplane) that he gets back into the air with. It's also a bit of a challenge to get up on a short board without knees, so it'll be a modified kneeboard that he gets back into the surf with. But PPP is not going to let these things stop him. He's kept his subtle sense of humour (well, subtle compared with mine anyway) and was recently overheard

giving advice to a hack golfer on stance and swing as we wheeled down to the clubhouse for a beer.

Airborne have very generously offered a Fun floater for raffling, to raise funds for some of the modifications to Pete's life. This will be drawn later this year, to make a damn fine Christmas present for someone. Books of tickets will be sent to all clubs listed in Skysailor, or you can get them from me at Newcastle Hang Gliding Club, PO Box 64, Broadmeadow, 2294. If you're online you can email me at aprice@ozemail.com.au or you can ring me on 02 49430674 for your tickets. Visit the PPP web site on www.dropbears.com/ppp/index2.htm

Al Giles

New Silva Windwatch

Manufactured in a bright yellow plastic case, the new Silva Windwatch incorporates a windspeed indicator with a temperature gauge, memory and computing functions. The instrument was designed for site checking, with easy hand use, user-friendly computer functions and will cope with heavy duty use.

The digital display reads and records peak windspeeds, current windspeed, current temperature and windchill temperature. Calibration is user-selectable with measurements shown in mph, km/h, m/s, °C or °F. The lithium battery power supply is claimed to allow 100,000 1-minute measurements. Retail price is expected to be \$155.

More information from Ultralight Flying Machines, ph: 03 9431 2131, fax: 03 9431 1869.

Firebird news

New USA records: Will Gadd will be submitting his claim for the official World Open Distance Record with an incredible flight of 288.19km on a Firebird Cult.. He flew from Hobbs in New Mexico, claiming it hadn't even been a good day!

Scott Johnson made the furthest flight ever on a DHV2 glider, the Flame, from the same location: 226.8km.

Ignition fever: Following good reviews on the internet, demand for Ignitions has overtaken supply. Frustrated importers worldwide have to put up with 6 week delays, but we are trying our best to get a glider to everybody who wants one.

Chris Santacroce (USA) and Daniel Loritz (CH) recently proved that DHV1-2 gliders don't have to be boring, by looping the Ignition at the recent Demo Days at Point of the Mountain, Utah.

New high performance glider: The Rocket, planned to be certified DHV2-3, is coming along nicely and will be available in August. For more info check on <http://firebird.computer-partner.de>

Matthew Whittall, Firebird

Pre-World's Hang Gliding Competition www site

We plan to post daily reports on this competition on our website at: <http://www.theleague.force9.co.uk>

John Aldridge

New Moyes Contour harness

Juan Corral and Kraig Coomber have together designed the Contour, a new harness that's sleek and aerodynamic, yet possesses all the comfort, quality, and features of the Xtreme. It features an internal slider bar, light weight aluminium frame with webbing load brace, low profile body contoured shape with hugging neck line, streamlined side or front mounted chute container or, as a comp option, an angled mylar-lined internal chute pocket, drogue chute pocket, 5 internal pockets designed to house cameras/radio/pack-up gear/water reservoirs and all flight requirements, continuous webbing for added strength and force distribution, one-to-one head-up attitude adjustment and the new streamlined uniquely Australian native print.

Phone 02 93164644 or fax 02 93168488 for more information. Web site: <http://www.moyes.com.au>

Moyes Delta Gliders

NSW Sports Injury Scheme

The NSWHGPA has been accepted as a member of the NSW Sports Injury Scheme, which is run by a committee of the NSW State Government, administered by a Chairman and six members, nominated by the Government and appointed by the Governor. Our membership is for 12 months starting 1 April 1998 and reviewed annually. The cost for each of us is \$10 pa.

Briefly, to qualify for a benefit under the scheme, an applicant must be a member of the HGFA, a member of a club within the NSWHGPA, and engaged in an authorised competition, training or practice as a pilot or official for such an event during which he/she suffered an injury causing permanent disability. It does not cover simple recreational flying, nor people flying alone. Maximum benefit is \$171,000, diminishing to about \$5,645 for, as an example, the loss of a finger (not uncommon in ball games).

There are 14 clubs in the NSWHGPA at present, listed in the back of Skysailor. Not all NSW pilots have bothered to join a club yet, but if they wish to be covered by this scheme, I would suggest they do so now, otherwise we may have difficulties establishing any claim they might have. One of our pilots recently became eligible for maximum benefits as a result of an accident while flying at a club event just 17 days after our admission into the scheme. Incidentally, these benefits are in addition to any cover you might already have and cover you while flying interstate or overseas.

To what extent non-NSW resident pilots or officials may become part of the scheme is still under discussion.

Steve Hocking, Hon. Secretary NSWHGPA

New Paramotor M3 model out now

Featuring a standard fuel gauge, thrust of 53kg at 6,700rpm, low noise carburettor silencer, stronger battery, lighter weight.

Dealer enquiries to Axis Centre, Abergavenny Monmouthshire, UK, +44 1873 850910.

7th Open PG Championship of New Caledonia – Island of discovery and adventure

New Caledonia is a mountainous island (highest point 1,639 m) encircled by a 1,600km barrier reef, creating the world's largest lagoon and sprinkled with numerous islets. It is an island of contrast. The south's wild beauty of red earth moon landscapes, the dry west, stockmen country of cattle and rodeos, the windy east coast, watered by tropical rains and an abundance of rich vegetation and animal species endemic to New Caledonia. Constructed by millions of madrepores over 1,600km, the reef crown forms the New Caledonian lagoon, a natural aquarium populated by multicoloured and fluorescent coral and breeding ground of tropical fish.

New Caledonia offers the possibility to practice many sports: bush walks, horse riding, mountain biking, golf, white water rafting, 4 wheel driving, diving, yacht, catamaran or motorboat hire, windsurfing, canoeing, kayaking, jet ski, waterskiing, pirogue or glass bottom boat rides. Tour the main island, Grand Terre, or visit the islets by seaplane, helicopter or ultralight, parachute, visit the Loyalty islands, the isle of Pines, Casy isle or Ouen island... and, of course, paraglide!

The Open will be held 23 Oct-1 Nov 98 at Dzumac & Ouazengou – 30 & 400km from Noumea. Each year the New Caledonian Open welcomes pilots from French Polynesia, New Zealand, Australia, Japan, France and other European countries in a warm, friendly ambience, all in a tourist context. We propose three event types.

Registration fee (A) is XPF20,000 (about AUS\$285) and includes registration only, films, development of negatives, site maps, shuttle buses return Noumea/Kaala-Gomen (400km) and to the sites, 4 days in the Northern Province (breakfast, sandwiches, evening meal and night), welcome cocktail, cocktail at prizegiving ceremony.

A competition and accommodation fee (B) of XPF30,000 (about AUS\$425), includes registration and services as above plus accommodation at the Youth Hostel in Noumea for 5 nights. **A tourist fee (C)** of XPF30,000, includes all B options, but no competition fee.

Please return the following pre-registration form to AVLNC, Box. 309, 98845 Noumea Cedex, New Caledonia, ph/fax: +687 249009, email: avlnc@yahoo.com

The Organisation Committee

Pre-registration:

Surname: _____ First name: _____

Address: _____

Country: _____

Licence number: _____ Competition number: _____

Please check the appropriate box:

☐ **A** – Registration only to the '98 Open (XPF20,000).

☐ **B** – Competition & accommodation incl. registration (about XPF30,000).

☐ **C** – I'll come with _____ person(s) as a tourist only, with no registration to the competition (about XPF30,000 pp).

Date _____ Signature _____

Return to AVLNC, Box. 309, 98845 Noumea Cedex, New Caledonia, ph/fax: +687 249009, email: avlnc@yahoo.com

NEWS

Byron Bay Hang Gliding Club

At our AGM the new office bearers voted in were: President and Senior Safety Officer – Brian Rushton, Secretary – Peter Aitken, Treasurer – Peter Blight Jones.

With winter here, this is a good time of the year to catch up on things and site maintenance is on our agenda. Some of our sites are being considered as part of National Parks increasing expansion over crown land and we are negotiating with them to keep these sites operating.

We welcome pilots to enjoy our mild winter weather, but as usual, visitors please contact a local pilot before attempting to fly any of our sites.

Brian Rushton

Cairns Hang Gliding Club

We are still reeling from the tragic loss of Andrew Atkinson at Biloela, during an aerobatic manoeuvre. We feel with his family in the harrowing time ahead.

Many tablelanders have viewed their homeland from aloft with the Eagle School of Hang Gliding's trike. Club members can get their tow or trike endorsements from Steve and Lisa.

Flight of the month goes to Nev Akers. After an enjoyable trip from the Gillies, Nev was nearing Edmonton. You have heard of radio controlled cars? He was operating one from his hang glider. He directed his overseas-tourist-pick-up driver first through streets and then to a house number – Joe Reys'. He then dropped in on his friend in the backyard (not a built up area).

Queen's Birthday weekend saw only 8 or 9 flyers on the first, 4 on the second and 2 on the last day in good flyable weather. Nev and Joe flew to Port Douglas.

Lance Keough

HGAWA Messagebank – Method of Operation

Important Note: Once you have recorded a message you must phone in and listen to it and when prompted save it with 4 #. Otherwise the first person to listen to the message will be the last person to hear it as it will automatically be deleted. If you want a message for multiple playback make sure it is saved!

This service is established for a trial period of 12 months and to all members of the HGFA. Other interested parties such as clubs and schools are also able to leave messages for general or specific groups.

The Call Manager Messagebank facility provides a 60sec greeting message, 40 stored messages, 120sec maximum message length, 30 day storage time, message times and dates. Unless messages are cleared by voice prompt they are automatically cleared after 30 days.

Call Manager MessageBank on 94873258 at local call cost.

To leave a message: Phone 94873258, Listen to greeting. Follow prompt to record message, Phone back to listen and save message.

To listen to messages: Phone 94873258, Press # during greeting, Enter PIN No 3258, Follow voice prompts.

This service costs \$5 per month as a glorified answering machine and is being funded by HGAWA as a service to pilots. If you have further queries please contact Graeme Wishart on 08 93282511, fax 08 92277073 or email nessper@wcif.net.au

Graeme Wishart

Another sad loss

Willi Mueller, hang glider and paraglider pilot, instructor and father of Chris Mueller was killed recently during a paragliding accident. At this stage no details are known.

Willi was a wellknown and respected pilot in his home land Canada as well as around the world. He had many friends in Australia who will grieve over his loss. Our condolences go to his family and friends.

Suzy Gneist

Race scoring program

The new version of the CIVL 1998 RACE competition scoring program is now ready for use. This program was written as a result of co-operation between CIVL and DHV and has being upgraded with new features and slightly different formulas.

This software was produced through the hard work of Paul Mollison, Angelo Crapanzano and Gerolf Heinrichs, with Achim Mueller being the programmer that put it all together. Language files are available for separate download, but I recommend to download full RACE 3.20, because of the upgrade to GAP 98/2. Thanks to Felix Burkhard and Nestor Spedalieri for their great job of translating RACE to English (help file) and Spanish (text).

Thanks also to the DHV who have helped enormously in financing work on this program. RACE 3.20 is now available for download, on: <http://www.mz-net.com/race>

Sometimes this site is not reachable, so please try again later, if you cannot connect.

A Windows version of the program called "Race" can be downloaded from <http://www.mz-net.com/amsoftware/english/index.htm>

There is also a DOS version of the GAP formulas to be found at the GAP homepage <http://lappc-th4.in2p3.fr/fliss/misc/gap/>

This page also has the user manual and an explanation of the GAP system. There will also soon be a tactics booklet available to give some insight into how a pilot should view flying in a competition scored with the GAP formulas.

The GAP system has had a lot of problems in the past because of poor image. Problems have occurred when competition organisers and pilots were not aware of how the system worked, but with a little thought of the philosophies behind GAP, the system is a very fair and workable one.

The GAP formulas have evolved over many years of competition scoring. The problems and pitfalls that can occur in competition scoring, unfortunately crop up in strange ways and often as a result of seemingly innocent circumstances. The GAP system is still constantly under review.

Have a look at the program and the explanations and give it a go. If you have any comments or general feedback on the RACE program, feel free to contact me at zupy@ozemail.com.au, as I am keeping a record of what changes/problems/concerns people have with this and any other scoring system. This information will be used to guide further editions of RACE.

Changes from RACE 3.11:

- GAP description for pilots added as word document;
- Bug corrected, when importing data from RACE 3.0 or 3.02;
- Maximum distance enhanced to 290km;
- Extended graphical output for task results;
- Several minor bugs corrected.

Changes from RACE 3.12:

- GAP 98 problem corrected, now new version GAP 98/2
- English help
- Spanish language

Michael Zupanc, Australian delegate CIVL

A new future for the FAI

The FAI, world governing body for all kinds of sporting aviation, air and space records, is to move to a new headquarters in Lausanne, Switzerland, in a few months time.

The FAI Council selected Lausanne from a strong list of bidders, including Geneva, Monaco and Vienna. FAI President Eilif Ness of Norway explained reasons for the move to Lausanne:

- The need, shared by all international sporting federations, for a good, stable business environment with an international atmosphere.
- FAI's requirement for status befitting its position as an international non-governmental organisation, recognised by the UN and the ICAO.
- The synergy effect of being co-located with the numerous other International Sporting Federations already based in Lausanne, including co-location with the International Olympic Committee, emphasising FAI's primary role as the air sport governing body.
- The need for high-quality, affordable office space with long-term security of tenure.
- The promise of support, including financial concessions, from regional, municipal and Olympic authorities.
- Availability of well-qualified, multi-lingual staff.
- Easy access for delegates through Zürich and Geneva.

The forthcoming move forms part of FAI's strategic Business Plan, also adopted by the FAI Council, which aims to position FAI for the new millennium as a modern, business-like federation, well placed to serve the needs of its members and in the mainstream of the world sporting movement.

Details of the precise date of the move and of FAI's new contact address will be released later in the year.

Andalucia to host 2nd World Air Games

After a tense and closely-fought, but good humoured contest between 3 well-qualified bidders, the 2001 World Air Games have been awarded to Spain by the recent FAI Council meeting in Paris.

The successful bid by the Real Aero Club de España (RACE) and the Federacion Aeronautica Española (FAE), calls for the 2nd World Air Games to be held on 10 sites centred on Seville in Andalucia in June 2001.

None of the proposed sites is more than 3 hours drive from Seville, ensuring a cohesive, unified Games. The Opening Ceremony will be held in Seville and the Closing Ceremony at the new motor racing circuit in Jerez de la Frontera.

The Andalucian Games will include: Hot Air and Gas Ballooning, Gliding, Parachuting, Aeromodelling, Aerobatics (Powered and Gliding), Microlights, Helicopters, Rally/Precision Flying, Hang Gliding, Paragliding, Amateur Built and Solar Powered Aircraft.

Projects for various cultural and popular events are also included in the framework of the Games. Extensive media coverage is planned, ensuring TV stations around the world easy access to pictures and sponsors will therefore find it attractive to give support to the Games.

The budget for the event runs to several million dollars, only a small part of which will be covered by entry fees. Substantial financial and material support has been pledged by Spanish government authorities at national, regional and local level.

The International Olympic Committee (IOC) has been informed about the award of the Games to Spain, and FAI has pledged to work closely with the IOC to ensure that there is no clash of interests.

Spain promises outstanding weather, uncongested airspace, good infrastructure and a big welcome from friendly local people. It is already clear from the front page treatment given in the Spanish

press and TV to the announcement of the Games that the event will have a big impact in Spain, giving a great boost to the air sport movement there.

The FAI is confident that Andalucia 2001 will anchor the World Air Games firmly in the regular international sporting calendar, alongside the Olympics and comparable large scale events.

Regular up-dates will be mailed to all subscribers. Further information on the World Air Games is available at the following website: <http://www.fai.org/wag/>

Updates to World Pilot Ranking Scheme

The latest World Pilot ranking lists, including results from the Atlantic Coast Championships, USA (Classes 1 & 2) and the PWC in Fiesch, Switzerland, have been published on www.fai.org and www.theleague.force9.co.uk

In paragliding Jimmy Pacher leads ahead of Peter Brinkeby and Denis Cortella. In hang gliding Guido Gehrmann holds the number one slot ahead of Mario Alonzi and Oleg Bondarchuk, whilst Ramy Yanetz and David Sharp share the lead ahead of Brian Porter in the 1st issue of Class 2.

Full information and ranking lists can be found on www.fai.org/hang_gliding/ and the rankings only on the British League website <http://www.theleague.force9.co.uk>

CIVL Jury and Steward Training Seminar

At the 1998 CIVL Plenary meeting held in March, CIVL held its first Jury and Steward training seminar. The event was headed by Dennis Pagen and had 31 participants from 16 different countries, some of which had extensive experience as FAI/CIVL Jury members or Stewards, had served as Jury for national/local competitions, as meet directors, to those who had no experience, but were keen to learn and make themselves available for future competitions.

The Seminar had three main aims:

1. Clarify the roles and duties of Jury members and Stewards, including discussions on philosophy, cultural interpretations of rules, penalty application, past and potential issues, etc.
2. Encourage more interest in serving as a Jury member or Steward as it has become increasingly evident that the list of available personnel is diminishing
3. Obtain feedback on how to improve the role of Jury, Stewards and competition organisation in general.

The seminar was highly successful in achieving its aims. CIVL now have an excellent list of potential Jury members and Stewards with a good knowledge of the basic requirements. These volunteers are looking forward to active service at future events.

Due to the interest in this seminar, CIVL plan to run it every year. *For further information contact Sarah Fenwick, CIVL PR co-ordinator, cloud10@zetnet.co.uk*

1998 CIVL Bureau

The current Bureau consists of:

President: *Olivier Burghelle (France)*, olivier.burghelle@wanadoo.fr
Vice-Presidents: *Dennis Pagen (USA)*, pagenbks@lazerlink.com
Howard Travers (UK), howard_travers@compuserve.com
Vasco Raposo (Portugal), mop14805@mail.telepac.pt
Riikka Vilkkuna (Finland), faa@sci.fi
Secretary: *Noel Whittall (UK)*, noel.w@zetnet.co.uk
Treasurer: *Jim Bowyer (UK)*, Jim@pccld.co.uk

Bureau members welcome direct email correspondence. Email correspondence should be restricted to:

- comments on CIVL decisions, rule changes, etc,
- suggestions for the development of hang gliding and paragliding and the work of CIVL
- comments and suggestions concerning the CIVL home page.

What's equal?

GEOFF DOSSETOR

I recently discovered a major drawback of having a kingpost on my glider. It has nothing to do with aerodynamics, but has affected my performance terribly over the past two weeks. Before I warn you of the danger however, let me provide some background information on this topic so that it can be debated fairly in the future.

I went to Australia in February to fly in "Grand Prix Hang Gliding", a made-for-TV competition you may see screened later this year. First I headed to Forbes for the end of the World Championships party, turning up a couple of days beforehand to check out which gliders were performing well and to see which pilots were best able to take advantage of that performance.

The day I arrived turned out to be the last of the competition. A huge front had passed through, bringing with it strong gusts, lightning and all night rain. I was pleased to meet Guido Gehrmann again. This young German pilot, who's ability had already been apparent when I first flew with him at the 1996 WHGS, was ever positive and enthusiastic. When I suggested that the rain might spell the end of the championship, he declared, "I hope not, I want another chance to beat Manfred!" However, Manfred was upstairs beginning an all night party at the bar for he knew that the event was over. His pursuit of the World title will have to wait until Monte Cucco in 1999.

Speaking to various pilots over the next few days, the consensus seemed to be that Manfred was gliding the best. Even Guido observed this slight advantage, though Manfred had it over other Icaro 2000 pilots too! So what is it that gives one pilot an edge over the rest? Many had concentrated on reducing drag. Harnesses were streamlined to the extent of housing parachutes inside, behind the legs or above the back. Many had single risers with few, if any other lines. Often they had no carabiners, just a bolt through the hang point to eliminate a little more drag. These harnesses were sleek, and combined with a flight computer indicating speed to fly and half a brain, would probably have resulted in greater performance increase than the lack of a kingpost and luff lines.

The few kingposted gliders present placed lower down the final order, though still ahead of other kingpostless gliders. I have no doubt now that at high speed glide, topless gliders have a slight edge. It has been demonstrated in other competitions though, with pilots of perhaps lesser, but more even ability, that a kingposted glider can still win when piloted by someone who makes the best decisions.

Now why do some topless gliders, even of the same design, go better than others? Aren't they certified in the same configuration? Shouldn't we be competing on level terms? This I found to be a taboo topic amongst some of the elite. You see, the ordinary competition pilot who buys a certified glider is told that modifying the configuration could render the wing unsafe. Those who don't wish to risk their neck

unnecessarily in the name of winning therefore don't modify their gliders. Others were perhaps discouraged in the past by the obvious nature of seeking an advantage – a shackle to lengthen luff lines or a blatantly different batten profile for example. Now it is all too easy to tune safety struts down lower than their certified position to improve high speed glide. Less than stable profiles are available for competition. So many pilots are doing it now, the horizontal stabiliser on the keel has evolved to calm the nerves of pilots who witnessed the resultant increase in tumbles. Your friends don't even have to know you're doing it, so no longer is performance increase only the domain of factory pilots.

Is it cheating? Someone said to me that anyone willing to take such a risk deserved to have an advantage. Let me suggest that in almost any other sport where design affects the safety of the participants, competitors would likely be disqualified for breaching set design specifications. Now look at the top three place getters at the recent Worlds, or any World Championship in this decade for that matter. They didn't have stabilisers on their keels, but if the pilots were to openly discuss the matter, I think they would tell you that their gliders were not of a certified configuration.

"But that's how we test new designs and provide performance improvements", I hear people say. "There isn't enough money in hang gliding to finance research and development like they do in motor sports or yachting." That may be true, but I think the other pilots would like to have as much a chance as anyone else. I certainly don't want to be disadvantaged just because I fly a certified glider in its proper state.

I don't dispute the ability of any of these pilots – they would probably win on a certified glider anyway. I don't believe they are cheating as such, but finding a way of flying a glider which is as good as anyone else's willing to take that risk. I acknowledge their courage to do so. However, if a rule was enforced that all gliders flown in competition had to be of a safe, certified configuration, then everyone would have an equal chance. The winners of such competitions would probably be much the same, but surely their accomplishments would be fairer and therefore greater?

Guido told me, and I think most would agree, that he would prefer it if everyone flew the same gliders. I suppose that for manufacturers to survive, there must be differences, but certain limitations for safety's sake could offer an equally fair chance for every pilot. "Success is glorious only when it is nobly achieved." I was privileged to get to know Guido, Oleg and Manfred quite well in February, and I know them to be great people and fair competitors. Wouldn't it be great to compete with them on roughly equal, but safe gliders? Surely their success would be even more glorious. I am interested to hear feedback on the subject from other pilots.

Back to that major drawback of having a kingpost. Well when the glider is laid flat and you jump over it to save walking around the wing, it is much easier to trip when there are luff lines present. Had I been flying a topless tandem glider, I wouldn't have tripped and landed heavily on my knee. I wouldn't have had all these stitches or had to wear that brace to keep my leg straight for two weeks. The passenger I was going to fly wouldn't have had to help pack up the glider on the hill either! At least I got some things organised for the WHGS New Zealand Speed Gliding World Cup. Keep an eye on our web page: <http://tdtech.co.nz/fly/> for updates. See you in Queenstown.





Formula 1 Paragliding

A proposal for the future of paragliding competitions

ROB WHITTALL

There are plus and minus points to this proposal for F1 competition certification, but in the end whatever we sacrifice for our own safety and the good image of our sport is worth doing.

The Problem

During the '97 season it became apparent that something was badly wrong in competition flying. The season saw more accidents than ever before. PWC events usually have a few incidents involving the deployment reserve parachutes, but the World Championships were even worse with 23 accidents (10 reserves deployed). At the World Air Games the trend continued with reserve deployments and one of the best competition and test pilots in the world, Peter Brinkeby, seriously injuring himself. If pilots of this calibre can get into such trouble, I ask you what less well-qualified pilots are doing flying these comp gliders.

Competition flying is becoming so elite and detached from normal flying that it is not interesting enough for most pilots to follow any longer. If we cannot generate interest within our sport, how can we expect outsiders to be interested? At a motor racing Grand Prix there are tens of thousands of spectators, at a paragliding event there may be 200 – if we're lucky. You don't see hundreds of free-flying pilots coming along to watch. I believe, this is because they cannot relate to what we are doing. If our gliders were safe enough to be flown by the masses, then perhaps interest would increase.

During the last winter, I started thinking about ways to remedy this and have come up with a proposal. I don't expect everybody to like it, but I guarantee it will make competition sport safer and probably more interesting.

The Philosophy behind FORMULA 1

The main reason for this proposal is to improve safety. I don't like hearing about or witnessing accidents. Last year, I had to land in a very unpleasant place to help a fellow pilot who had crashed and broken his neck. Luckily for him there were pilots around who could land and help him (he has almost fully recovered since), but where do we draw the line? I put myself at risk for him although I believe that he probably did not have the ability to fly his comp wing in the first place. It's a lot to ask of a pilot to put himself at risk for somebody else's lack of ability. I flew this competition on an intermediate glider and was amazed that the extra confidence and safety almost made up for the performance loss, and I certainly took less risks and had more fun.

What is FORMULA 1?

Basically, the format and structure of competitions remains the same. Formula 1 is a class of paraglider which has been certified to certain safety standards and only these paragliders are allowed to compete. I have chosen safety standards that make Formula 1 gliders similar to modern intermediates. A list of the exact tests I would like these gliders to pass is available separately.

I would like to see all FAI and PWC competitions to be flown only on Formula 1 certified gliders. A system would be introduced to check that the glider conformed to the certification (as in Formula 1 motor racing, for example) and pilots found to be flying adjusted, or non-certified gliders would be disqualified for the entire competition. Details of these control methods are also available separately.

What will FORMULA 1 achieve?

I believe that we can expect

1. a higher degree of safety for all competition pilots;
2. less of an "unfair" advantage for professional factory pilots who always have the very latest and highest performing gliders and thus win most of the comps;
3. closer, and thus more exciting competition;
4. more interest in competition from normal pilots since these gliders are safe enough for the majority of pilots to fly;
5. that competitions will really show who is the best pilot and not who has the best performing super hot-ship.

Interestingly enough, one of the original aims of the PWC was to create fair, equal competitions which were accessible to a larger range of pilots. The current development in competition sport undermines this by making victory only possible with gliders which can only be flown safely by a small elite. I cannot think of one important competition which was won by something other than a prototype.

I hope other pilots and associations will agree with me that these developments can only help our sport and will support this proposal.



Comments

This proposal has the full support of the sport in Australia. Our Competitions Committee recently introduced sub classes in both hang gliding and paragliding in order to attack the same issues presented by Rob.

Early mail on the matter here is that we should adjust our new class definitions to fit with those proposed by Rob if this is generally accepted worldwide. Go for it, Robbie!

Ian Jarman, HGFA Executive Director

The international governing body FAI/CIVL are keen to support and explore this proposal and consider it as part of CIVL's strategic long term (2-5 years) planning.

The idea of a standard type hang glider was first suggested at a CIVL meeting in 1993 without receiving support. However, we now have one of the World's best and most respected pilots proposing a similar idea. This, combined with proposals for developing media interest, should be brought together and used to develop a suitable competition format.

Currently CIVL do not regulate Category 2 (B class) competitions, however, we are always keen to support ideas that encourage safe flying and development of 'grass roots' pilots. To this end CIVL recognise that they may have future involvement with this type of event.

This is not just about safe wings, safe tasks and TV promotion, we need to combine all of these to produce a format that satisfies pilots, NAC's, manufacturers and sponsors and appeals to the media.

CIVL Bureau

Lift is where you find it!

LEX JONES "BATWING"

It hadn't blown southeast since Christmas Day and the southwesterly sites we had flown daily were getting boring. Then came the morning of January 5th...



A good day at Mt Blackheath.

Photo: Martyn Yeoman

0600: Eyes open and... yes, the draught is from left to right over my face. Quick, unzip the blind and check the windsock. Double yes! The wind is definitely southeast, but very light under a totally overcast sky – plenty of time for a bowl of muesli.

0615: Fire up the Subi and drive to take-off – only 240ft asl and the breeze not much stronger than down on the beach. Feels moist and doesn't have the usual Albany chill. Time to set up.

0700: A bit light – maybe too light to stay up, but with a spirited run 3 lemmings and I launch off the front. The air is silky smooth, but the lift oh so light. We all fly across the gully to the main ridge where we gain a small amount of height on every pass until we top out about halfway up the main face.

Well, here we are, about the same height as take-off, but well below the top of the 400ft ridge. No chance of flying back across the gully for a top landing. It's make this work or land on the beach.

Cruising – hands open with basebar grasped lightly by fingertips, adrenaline heightened senses quivering for the scent of lift. Float the glider up when there is a perceptible increase in pitch pressure, trim in when it decreases – can't afford to lose directional control or 30ft in a stall, not with the ridge close to one wing and 3 other hang gliders to coordinate with.

0720: We're all still flying in a careful circuit. 4 hang glider pilots being extremely cooperative – sustained flight demands it. We all gained 150ft in a patch of more buoyant air, only to sink back down to the height we were previously. Now, what caused that? Did the wind speed increase, the air become more moist, warmer, convergence of sectors? Mmm, interesting. Scratching halfway up the side of the ridge with 3 other gliders is getting mentally tiring and the beach landing is looking better and better.

Coming up to the gully again (for the 100th time) the basebar gently increases its pressure on my fingers and the vario gives a beep in sympathy – a bubble would give me the ideal opportunity to turn around and tuck back into the ridge. No! This flight pattern is not working and it's time to try something else. If this bubble is wide enough I could fly straight off the ridge into the gully and gain more height turning in the bubble than by turning before the end of the ridge. The wind is that light that being 'blown' down the gully won't be a problem. Besides, if it doesn't work, the beach landing in front of the camping area at breakfast time will have the consolation prize of a hot cup of coffee I should be able to scrounge with my bomb out story. You know the one "There I was..."

The vario chirps a 50fpm message as I fly off the end of the ridge and over the camping area in the gully. 3 seconds pass, the 50fpm is still there and it's time to turn. What the hell, why not downwind instead of upwind – there's no perceptible drift and I'll still have heaps of height to set up a safe landing if the glider hiccups downwind. One flat downwind 360 coming up! I don't believe it: I've done a full 360 in continuous lift with virtually no drift down the gully... and a minor height gain. Let's keep this turn going and shift the brain into overdrive to formulate a new flight plan. The vario chirps away as I continue circling at 250ft over the sleeping camp.

Facts: I'm in lift, I can safely 360 without concern of hitting the hill and the drift is very slight. If the lift dribbles out or isn't strong enough to clear the 500ft limestone cliffs sealing the end of the gully, I should be able to fly back out and land on the beach. If I can't make it all the way back out, the landing in the low bushes will be gentle and it will be an easy retrieve. Decision: Go for it – follow this lift into the box canyon!

The vario is now indicating 50-100 constantly, with blips of 150. Adrenaline pumps up the volume. OK, OK, time to get real serious – don't lose this sucker – keep it clean. By this stage I've lost sight of the others soaring the front of the ridge as I have drifted into the gully, but the lift is continuing to improve, 150-200fpm now. Round and round, the wall of the gully skidding by with every 360 as the vario continued to chirp its sweet song. The drift is amazingly light, diminished by the increasing lift.

Another ten 360's and I've drifted about halfway along the gully, gaining valuable height. If this continues I'll easily clear the cliffs that were so daunting when I flew off the ridge. Time to relax and take stock. I don't believe what I am doing! It's 0730 on a seabreeze coastal site, under total cloud cover that doesn't look at all thermic and from 220ft asl I have hooked into lift that has all the characteristics of a thermal! I am way back in the gully, but the lift is improving, getting a little lumpy with surges of 300+. Below the wall of the ridge/cliff height until now I now crack the top to see a 360 degree horizon. What a relief. Approaching the cliffs, flying lazy 360's around the whole bowl, the bubble turns into an inland style thermal demanding my full attention and the vario averages 300-400 up, peaking at 500+.

Time for a new flight plan – the last one was big on risk assessment and small on flight options. What the hell! Let's see what happens with the lift, flying out to land is not a problem. Working, working. Going up, drifting back, the lift is starting to wane or I'm losing it. Cracked 1,000ft asl, but the drift has taken me well over the back and seems to be on the increase while the lift is on the decrease. The thought of sticking with it to start an XC flashes up for all of a split second before sanity resumes full service. The lift diminishes to 0-50 and I decide to pull out. I've gained just over 1,000ft whilst drifting back about a kilometre from the front. One last lazy 360 to take in an amazing peninsular view that I will probably never see again from this perspective and I straighten up with the pointy end of the glider facing the coast.

Full VG, tucked in and nose down for low drag I begin penetrating back to the beach. I'm on top of the world! I've just done something that I would have had great difficulty in believing possible if I hadn't been there.

Porpoising along in lumpy air back to the front was easy – some useful zeros and 50's to begin with were followed by neutral air – no horror sink holes. Once the front of the ridge comes into sight again, two of the three gliders are still stuck on the ridge at 200-300ft, the third on the beach. On reaching the beach, I check the altimeter: 400ft lost during the return trip. I opt not to join the others still scratching on the ridge and instead fly out to sea.

Beautiful smooth air and height to burn. A few aros to round out the flight, then a pulse calming cruise for the last few hundred feet to give myself a good chance at sussing the top landing. The wind is light and I will only get one go at it. The beach landing would have been OK, but let's face it, my car is parked at the top! Conditions are similar to late afternoon glass off inland, so I ignore the fact that the landing area is a small pimple and instead visualised an inland spot landing in a flat paddock. The wind is almost nonexistent in the landing area and my landing is hot: A big flare completes a better than average landing to end one of the most memorable flights of my life. Time to wake up some hang glider pilots with a "You shouldda been there..."-story and see if they believe it.

There is a moral to this story: Don't let preconceived ideas blind you to the fact that nature is fickle and sometimes there is lift where and when you least expect it. Always put on a vario and remember the golden rule "lift is where you find it".



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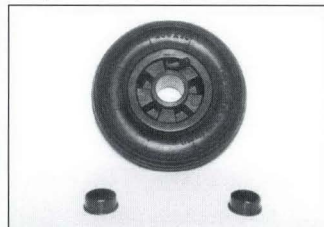
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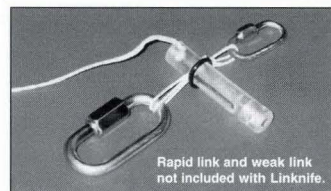
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Competition GPS Users

D TIM CUMMINGS

Canungra Classic Trials GPS Verification

The 1998 Canungra Classic has been given approval from the HGFA Competitions Committee to trial the use of GPS track logs for turn-point and start gate verification and timing. To aid pilots flying in this year's Classic, I have prepared this competition GPS users guide.

In my experience, GPS verification is much simpler for the pilot than photo verification and I'd recommend pilots to obtain a GPS for this competition. If you don't have one, you won't be disadvantaged – photo verification will still be available. As this is a trial, it is recommended all pilots carry at least one camera as backup for the GPS.

Our trials have been made with a Garmin GPS. Users of other GPSs need to provide their own software for downloading track data.

GPS Initial Setup

All GPSs should be set with the following parameters

Time Zone: GMT +10:00
Datum: Australian Geodetic 1966
Track Log Interval: At most 30 seconds
Track Log Duration: At least 6 hours log.
Waypoint: Name = PILOT, Comment = Pilot's No + Name

On a Garmin GPS the following screens show where this data is set.

OPERATION SETUP	NAVIGATION SETUP	TRACK LOG SETUP
MODE: Normal	POSITION FORMAT: UTM/UPS	RECORD TRACK: Yes
DATE: ____	MAP DATUM: Astrln Geod '66	CRITERIA: 00:00:30
TIME: __:__:__	CDI Scale: ____	MEMORY USED: ____%
OFFSET: +10:00	UNITS: Metric	of 768 POINTS
CONTRAST: ____	HEADING: ____	CLEAR TRACK LOG?
BACKLIGHT TIME: ____ seconds	True	
TONE: ____		

I/O SETUP	WAYPOINT
GRMN/GRMN	NAME: PILOT
HOST	UTM
WAITING...	65 TIM CUMMINGS
OF	REF: ____
PACKETS	BEARING DISTANCE
	000° 0.00km
	RENAME?
	DELETE? DONE?

That's all there is to it. These settings can be set well before the start of the competition. Why not set them now! There's no advantage to having different settings as the computer software will compensate. However, data could be lost if these are not set.

GPS Operation

The requirement is that the track log includes 10 minutes (or total flying time if less) **before** and 10 minutes **after** each turnpoint or start gate. It is also required that at least 30 minutes of track log per flight are recorded. To verify a turnpoint or start gate, at least part of a track log segment must be inside that turnpoint or start gate sector. (A track log segment is the straight line between two consecutive track log points less than 60 seconds apart.) As an added security to ensure the GPS records an "in sector" segment, the pilot can mark a waypoint while he is in sector. If the timestamp

on this waypoint is consistent with the automatic track log it will be considered as a track log point.

The steps to achieve these requirements with a Garmin GPS are:

- Before launching – Turn GPS on
- While in start gate sector - Press 'Mark' then 'Enter'
- While in turnpoint sector - Press 'Mark' then 'Enter'
- After landing – Turn GPS off

Pressing 'Mark' then 'Enter' records a waypoint which will be added to the track log. Although optional, this is highly recommended where the course line deviates significantly around the turnpoint, for example in an Out and Return.

To ensure an accurate timestamp make sure you press 'Enter' within 5 seconds of pressing 'Mark'. You can add as many waypoints to the track log as you like. If you're not sure you were in sector, wait until you're sure you are and press 'Mark' then 'Enter' again. Pilots using GPS logging with more frequent data points, say every 5 seconds, needn't be concerned with manually setting waypoints, they can just fly the course. Sounds perfect, doesn't it?

You don't need to have the GPS on for the whole flight, but remember it needs to be on for at least 10 minutes before and 10 minutes after each turnpoint. Also, if a GPS doesn't have a fix, it will not be recording track log entries even if it is on. You don't want to be circling at a turnpoint waiting for your GPS to get a fix. Of course, to leave your GPS on all the time, you need good batteries. 1000mAh or better AA batteries are strongly recommended for Garmin GPSs.

FAI Sectors

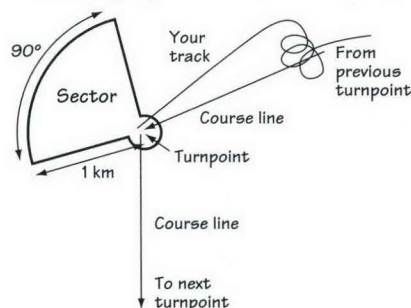
Turnpoint

The FAI Sporting Code Section 7 (6.6.8) states that: "The photo sector is a quadrant (90° sector) on the ground with its apex at the turnpoint and orientated symmetrically to and remote from the two legs of the course which meet at the turnpoint."

Furthermore the HGFA competitions manual 3rd edition (2.8.2.1) states: "The sector limit is one kilometre from the quadrant apex."

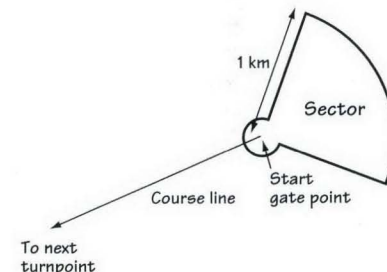
For the purposes of GPS Verification, the area of the sector has been

increased to allow for 100m random error (Selective Availability) of GPS devices. "The area within 100 metres horizontally from the turnpoint is considered part of the sector." The 'Beer Can' turnpoint sector as it is often called looks like this figure.



Start gate

The start gate also includes the 100m radius around the start point, as shown in the following figure. Advantages in using GPS track log for a start gate are that all GPS tell the same time and from the track log, the time the glider crosses the start line can be interpolated to the nearest second.



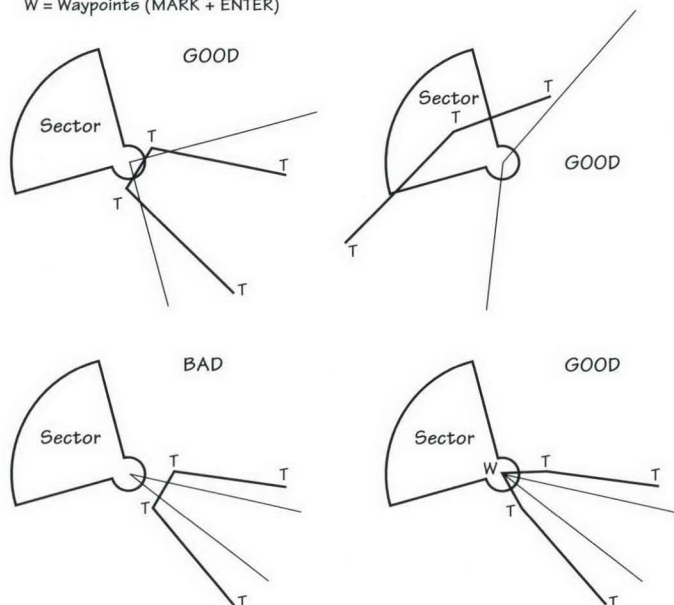
ers Guide

Goal

The HGFA Competitions Committee has requested traditional means to be used for determining goal crossing times. At the Classic we will also calculate the crossing time based on the GPS as a double check and evaluate the feasibility of using it in future competitions.

Examples of Track Log Verification

T = Track log points (AUTO)
W = Waypoints (MARK + ENTER)



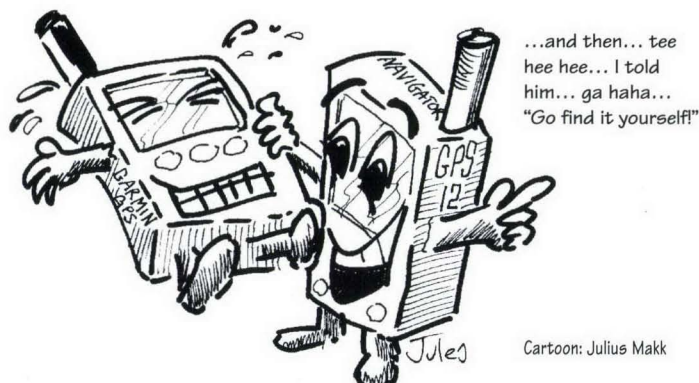
Full List of Rules

Some special rules have been developed by the HGFA Competitions Committee for use of GPS at Canungra. For a full list of rules see <http://www2.eis.net.au/~tim/classic98/gpsrules.html>

Conclusion

The Canungra Classic this year promises to be an ideal competition for pilots new to comp flying or intimidated by the complications caused by cameras. This year only the entry fee has been reduced to encourage newcomers to enter and fly with Australia's best. See the Skysailor Competitions Calendar for details or check out <http://www2.eis.net.au/~tim/classic98/classic.html> and enter online.

The use of GPS in hang gliding and paragliding is a welcome addition that removes some of the major hurdles to successful and enjoyable competition flying. The potential of this technology is only just starting to be realised and I am sure there are many novel applications of the technology still to be devised.



Cartoon: Julius Makk

TRIKE TORQUE

PAUL HAINES

Trike Accident/Incident Survey

Date	No	A/C Type	Licence	Total Hrs	Type Hrs	Injury
25/4/98	23	Airborne	Pilot	44.9	44.9	Minor
Edge 582						

Pilot was approaching to land at his regular airfield after a cross country flight. Conditions were good with a 5-10kt headwind. On final approach, with the motor idling, the aircraft drifted to the right side of the runway. Due to recent rain, there was standing water on this side of the runway and the pilot believes he was fixating on this and forgot to flare at the appropriate moment. The aircraft landed on its nosewheel, slid for 25m and rolled over on its side, causing moderate damage to the machine and abrasions to the pilot's hands and one knee.

Date	No	A/c Type	Licence	Total Hrs	Type Hrs	Injury
12/4/98	24	Airborne	Pilot	295	295	Pilot: broken wrist
Edge 582						
Passenger: Nil						

After a normal approach to the airfield, pilot decided to switch motor off on downwind leg for a pure glide approach. On turning onto final, he decided he did not have enough height to clear the fence and so made a left turn to land in an adjacent paddock. The aircraft landed and rolled over onto its right side, skidding along the grass on its side. Damage to the wing was extensive, and moderate to the trike base.

Date	No	A/c Type	Licence	Total Hrs	Type Hrs	Injury
30/5/98	25	Airborne	Pilot	230	215	Nil
Edge 582						

An ideal day for trike flying, smooth air, no wind, no thermals. The pilot was on final approach to land on a large sealed runway, but ballooned slightly before touchdown. On contact with the ground, the rear end of the trike started to "walk", lifting first the left wheel, then the right wheel, etc. The wobble got worse and finally the trike rolled over onto its side, sustaining moderate damage. The pilot was uninjured.

Comment:

As has been often repeated, most accidents occur on landing. Risk of a landing incident can be minimised by following these five guidelines:

1. Always give landings your total concentration – never become complacent or too casual about this phase of a flight.
2. A good approach path is virtually a pre-requisite for a good landing, so make your final a good one.
3. Never allow yourself to be distracted or "fixated" on anything other than the task in hand. Remember: "Where you look is where you go!"
4. Keep the bloody nosewheel dead straight!
5. Be prepared to apply instant power and "go-around" if the approach looks unsatisfactory at any time.



NEW COMPETITION DEVELOPMENTS

HEIKE HAMANN, Competitions Committee Convenor

Lots of things have been happening in the background on the competitions scene, with quite a few positive changes in store for the next season. Following is a very brief summary of those happenings discussed at the last Competitions Committee meeting on the 18 and 19 of April this year. A full copy of the minutes may be found on the Competitions Committee Website: <http://users.hunterlink.net.au/~dditl/hgfacc/hgfacc.htm>

The changes will be incorporated in the new version of the Competitions Manual, to be available by the end of September. Grab a copy of it to be totally up-to-date (and for some rivetting reading!).

GPS for flight verification

Two competitions next season may trial the use of GPSs for flight verification: the Canungra Classic and the Paragliding Nationals in Bright. Suggested rules for the trial use of GPSs will be refined over the next couple of months (see also Tim Cumming's article on this issue). Where the GPS data is not available or disputed, photographic evidence will be used to verify the flight.

Competition sub-classes

To increase the 'fun' factor at competitions and to encourage up-and-coming competition pilots to fly safer wings in competitions, rather than move onto high performance wings too quickly, new sub-classes have been introduced. For paragliding the sub-classes will be Standard (DHV2-type wings) and Open. For hang gliding four classes will be introduced: Standard, Intermediate, Racing and Open (see also Rob Whittall's and Geoff Dossetor's articles on this issue).

Round based ladder

A proposal was presented to the committee to introduce a second way of gaining National Ladder points based on the scores of a certain number of rounds rather than the total score of the competition.

The proposal was accepted for paragliding, with the best 8 rounds a year used to make up the National Ladder. Dropping rounds within hang gliding competitions will be considered later. This new rule does not affect the way in which competitions are run, nor the awarding of competition winners.

National ladders

The Paragliding National Ladder for the 97/98 Season is published on the Comps Committee Website, but the Hang Gliding National Ladder still needs updating. Anyone willing to help with this task?

National team selection – challengeable positions

Paraglider pilots eligible to fill the challengeable positions in a National team will now need to apply for these positions. Currently these positions are filled by the next people on the ladder, unless someone challenges them for the position. It was felt that this challenging of position sometimes creates ill-feeling.

Funding for National teams

The Comps Committee recommended to the HGFA Board that funded team members be assisted to a level of at least \$1,000.

It was also recommended that pilots not ranked in the top 15 of the team selection ladder generally not be eligible for financial assistance, except on application to the HGFA Board.

Website

Thanks were extended to Ian Ladyman for setting up and maintaining the Competitions Committee website.

Post competition audits

All competition organisers must submit an audit of income and expenditure to the Comps Committee and make the same available to all pilots on request.

Sanction applications

These need to be submitted to the Comps Committee by 15 April, prior to the competition. Sanction application forms will be made available.

Competition participation

A long discussion was held about how to improve attendance at comps, particularly for hang gliding (as paragliding competitions are growing in numbers). It was decided to put more focus on entry level competitions than in the past, whilst still considering how to improve Australia's performance at international competitions. Hopefully this will encourage more people to fly and compete, facilitate skill sharing – learning between old and new pilots – and eventually have the flow-on effect of producing more elite level competitors. Specific plans were developed to help this occur, including encouraging a less experienced competition pilot to join the Comps Committee when a position next becomes available.

Other topics discussed

- Archival of past competition results
- Technical delegates for Paragliding competitions (by Comp Director request)
- Formalising the selection of a task committee and protest committee by election of the pilots prior to the first task.
- Possible removal of foreign pilots to score National Ladder (this was decided against)
- Problems with GAP
- Changes to film requirements for AA sanctioned competitions
- Next season's calendars – PG and HG

Since this report only skims the items discussed at the last Comps Committee meeting, you can find further information on all topics on the CC's Website or by calling the HGFA office who will put you in contact with one of the committee members.



This meeting was attended by Dave Mills, Heike Hamann, Mark Newland, Mike Zupanc and Paul Mollison (Sat only), with apologies from Ian Jarman and Neva Bull. A lot of these people have put many, many hours of work in to make these changes happen. Thanks go to them.

Paragliding with Video Cameras

Obsessed with the idea of making my own flying videos, despite the dozens of them on the market, I started searching for proper tools. The simplest and most common solution is to buy a compact video camera, strap it to your helmet and Bob's your uncle.

It may sound alright but there are few problems associated with this simple solution. Besides looking like an intergalactic space emu, you never know what exactly you are recording! An extra few hundred grams on your head doesn't seem a lot and indeed it isn't for a short period of time – but for extended flights, say a few hours, you will think there is a truck attached to your head. This extra weight on your head may also give rise to serious safety issues: The combined weight of camera and helmet could make your neck susceptible to serious injuries if you land hard. Years ago when I decided to start my flying career as a hang glider pilot, I did one of those stall induced crash landings. In hindsight it was rather funny: I stalled the glider 5-6m above the ground and looked down for a split second to see both my instructors dangling from the wing tips of my glider via the straps connecting them there. The landing was hard and the glider was wrecked with a bent A-frame, but I was intact, apparently. For a month or so I suffered from neck pains and had difficulty turning my head. My reasonably fit body recovered in time, but I (or you) may not be so lucky next time. I am glad there was no extra weight attached to my head at the time or I may have broken my neck. Avoid carrying any extra weight on your head at all costs. Throw away the old, solid and heavy helmet and buy yourself a lightweight, but certified one. Your neck may not be strong enough to support the extra weight for a heavy landing.

Apart from this little safety issue, it is also not easy to operate the video camera on your helmet while wearing thick gloves when flying. It's a bit like trying to pick your nose with skiing gloves in the middle of a black run. Hence, once recording has started, leaving the tape running to the end makes for severe editing at home later.

Making smooth, flowing filming movements with the camera on your head is also a problem. Head movements are far quicker than the average video camera, therefore blurring the image.

Now that modern video cameras are getting smaller and lighter (some digital video cameras are no bigger than a cigarette pack), this can alleviate the weight related problems. Nevertheless, other problems still remain unless another suitable attachment point is found for the camera.

A possible solution to the problem of "What you're recording is what you're seeing" would be to use a miniature TV (no bigger than a vario) hooked up to the camera. Unfortunately, there are very few miniature TVs on the market and none have video inputs – so forget this. A better approach is to use an action camera (or lipstick lens). These are simple lenses with a CCD device (charged coupled diode) attached at the back, not much bigger than a matchbox. The captured image is transferred to the camera via a cable, so the camera

HAKIM MENTES

I can't imagine a pilot who wouldn't enjoy making his or her own flying videos to record their flights and travels.

My interest went further than enjoyment and became an expensive obsession.


can be kept in your pack. Different model lenses with varying qualities are available. To use such a device, the video camera must have a video input socket, but only very few Sony cameras incorporate this feature. Be careful here if you're relying on information from a salesman, according to them, all cameras have this feature. The price for such a set-up varies widely. A complete Sony solution could cost around \$5,000, including video camera, lipstick lens (around \$2,000), battery, battery charger for the lens, cables and labour. A cheaper solution is to use a similar set-up, but not all Sony equipment. Specialised video shops can prepare such a set-up for you. A colour action lens together with cable, battery and charger could cost you around \$1,000.

A video camera with LCD screen is ideal for the job. It is not only good for recordings, but also comes very handy for showing your hot shots on the spot or in the pub after the flight. Two Sony video formats exist at the moment, Video 8 and Video Hi8. Hi8 is superior and gives TV quality images.

The placement of the action cam and the video camera is very important for good coverage. The cam can be attached to the helmet, but head movements remain a problem. Attaching the cam to your shoe produces far better results. A foot is manoeuvrable enough to give very good coverage on the horizontal axis and some limited coverage on the vertical axis. Limited vertical movement can be compensated for by turning the glider if you're keen to get a specific backdrop. If you want to record yourself, just place the cam on your foot facing yourself. This configuration is particularly good when performing wingovers, spirals and other extreme manoeuvres. Slight foot movements make your petty manoeuvres look dramatic.

The video camera itself could be placed in your pack or flight suit, provided the LCD screen is sticking out and visible, although this is not an ideal solution. Placing the video camera on your leg like a vario is the way to go. This way it's possible to use video camera or action cam to capture images. The best configuration is for the video camera on your leg to look forward and the cam on your shoe to face backward. This offers the best of both worlds. If something interesting is happening ahead, just switch to the video camera and stay on the target. If something nice happens at the back just switch to the action cam and lift your foot and you are the essential part of the composition (gives good results if you look good!). With a little modification, Top Navigator vario leg brackets are ideal for attaching the video camera to your leg.

Once the set-up is ready and everything connected, your chest will look like the back of a computer: cables, plugs, sockets and switches everywhere. In my case, something had to go. This happened to be the throat mike for the radio – it wasn't much use anyway.

Finally, when everything is ready and working fine, I advise you to look after your video equipment. Don't put all of it in one bag and then leave it on a train. They don't come back, mine didn't. 



Offensive but Effective!

CHRIS BOYCE

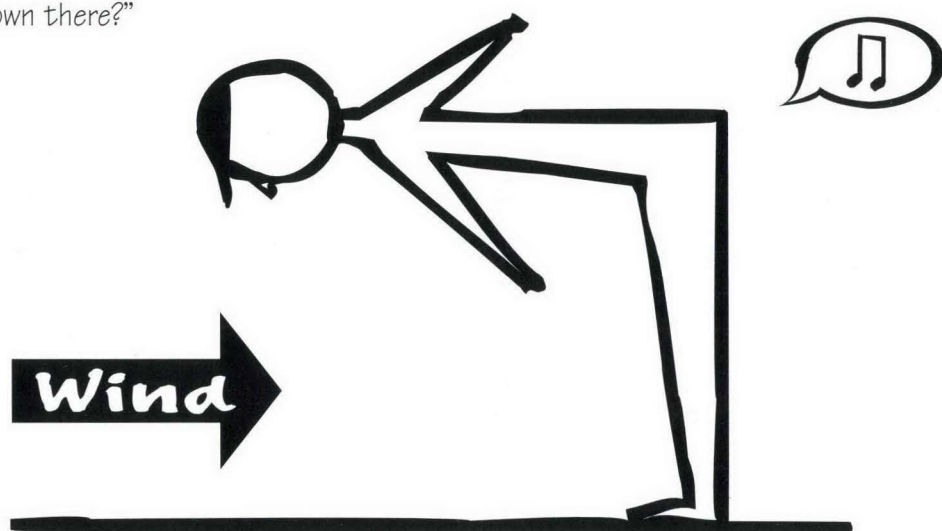
How often have you made your approach over the landing area undecided about the wind direction, especially at that time of the day when the valley wind is known to change. So you yell out to your flying buddies, "Hey! What's the wind doin' down there?"

After a moment you notice one guy frantically trying to light a fire to create some smoke, another is holding up a batten bag which is hanging straight down, another is bent over with his bum in the air (Yeah, same to you mate!), another is waving his arms around, pointing and yelling, "This way, this way!" (Umm, does he mean me or the wind?) and another is just standing there looking up and thinking, "You can pay big money for entertainment like this!"

Well, which is the best way of indicating to make an approach? Strange

as it may seem, one of the more accepted ways is the bum in the air – offensive but effective!

Take a closer look at this method: What are attempting to do here? Well, by bending over at the waist, with our arms swept back and our head pointed into the wind, we simulate the shape of the glider coming in to land and indicate the best direction for an approach.



Paragliding National Ladder – 15 April 1998

1 Fred Gungl	1,058	27 Gerry Gerus	337	53 Andrew Abbott	102	79 David Loakes	42
2 Peter Bowyer	956	28 Gavin Hanlon	327	54 Jorg Fedler	99	80 Brian Leighton	41
3 Enda Murphy	925	29 Paul Cox	316	55 Cindi Thornton	89	81 Belinda Head	41
4 Brian Webb	863	30 Karl Texler (jnr)	313	56 Ken Gray	89	82 Denise Crook	41
5 Ron McKenzie	826	31 Fran Ning	303	57 Jay Roadley	89	83 Gary Clarkson	41
6 David Mills	791	32 James Thompson	302	58 Michael Jowett	87	84 Sharyn Gingell-Kent	36
7 Andrew Kemp	752	33 Adam Nienkemper	288	59 Stuart Szabo	86	85 Tony Davison	33
8 Rob Schroettner	737	34 Hamish Barker	260	60 James Elder	85	86 Paul Steinman	32
9 Heike Hamann	668	35 Patrick Roser	238	61 Mike Sadan	77	87 Kiyonori Tsuda	31
10 Gary Stevenson	635	36 Danny Munsie	231	62 Graeme Simpson	77	88 Peter Champion	30
11 Andrew Horchner	568	37 Bill Graham	224	63 Geoffrey Bird	75	89 Hamish Robertson	29
12 Godfrey Wenness	564	38 Lee Scott	213	64 Felix Burkhard	73	90 James Ryrie	28
13 Stewart Dennis	553	39 Elgar Starkis	178	65 Tyrone Jaspers	68	91 Michael Brant	15
14 Ian Ladyman	549	40 Deirdre Skillen	159	66 Greg Walsh	67	92 Ashley Bennett	7
15 Rod Harris	544	41 Richard Tuckwell	158	67 Roger Montgomery	65	93 David Worthing	6
16 Phil Hystek	539	42 Barbara Utech	146	68 Rene Sedlmaier	65	94 Phil Savary	4
17 John Botting	536	43 Jason Turner	146	69 Martin Bastock	64	95 Peter Rigby	3
18 JJ Bastion	525	44 Rob Lithgow	142	70 Christine Danger	60	96 Adrian Pye	3
19 Bill Roberts	522	45 Charly Fellay	142	71 Simon Robertson	58	97 Owen Jourdian	3
20 Phil Stehli	482	46 Mark Elston	134	72 Kaylee Mackenzie	58	98 Greg Payet	3
21 Mark Plenderleith	448	47 Michael Rainczuk	132	73 Malcolm Williams	55	99 John Law	3
22 Kevin Gingell-Kent	448	48 Robert Saville	127	74 Tracey Sandstroem	50	100 Robert Foster	3
23 Christy Bishop	395	49 Cameron Young	125	75 Christa Texler	47	101 Paul Sorenson	3
24 Angus Jones	389	50 Jason Saunders	117	76 Michael Spratt	45		
25 Craig Martinson	366	51 Phil Taylor	114	77 Ted Jenkins	45		
26 Nigel Hack	341	52 Dallas Montgomery	110	78 Jonathan Allen	44		



Free Flying

Keeping the Dream Alive

BRIAN RUSHTON

Does it take a special kind of person to learn to hang glide? I think not. However, it does take a special kind of commitment from the new pilot to gain early airtime and experience.

The problem is that, unlike your early school years where you were taught lessons and thus gained experience, your flying is effectively experience first, then learn your lessons. It can be hard. Instructors can only really only get you started and thereafter you're on your own. However, your instructors can offer invaluable advice – don't lose contact with them.

Once out of school, the novice pilot must now be prepared for that extra commitment to their new sport and slotting airtime into a busy lifestyle can be hard because it is so weather dependant.

Keeping close contact with local club members is important, because many pilots have been there, done that and remember that we all still make mistakes, but only by discussing them do we continue to grow and hopefully make less of them.

I think for our weather dependant sport to continue to grow, we all have a part to play and more experienced pilots must try not to allow the younger generation of pilots to become disillusioned or frustrated and drift away into other, more userfriendly sports. Let's not keep hang gliding a pipe dream for many, but help make sure it's a reality, especially for those new, up-and-coming pilots whose early commitment to the sport will be tested.

Brian is an instructor, senior safety officer and president of the Byron Bay Hang Gliding club.

Towing Pleasures

ANTHONY ORMAN

Recently, I travelled to Tove Heaney's flying school to check out a new sail I'd fitted to my XS. We, my unpaid tow driver and I, spent a few enjoyable and productive days in the Goulburn/Tarago region and renewed a connection with some of Australia's early history in this area.

Three out of the four days were excellent for flying and while I didn't break any distance records, I did get away on a couple of occasions, got some good and valuable experience in the tow paddock and was pleased with my new sail.

Terry Anderson arrived on site and flew well after a lengthy absence from hang gliding. He had taken time out to acquire a commercial pilot's licence and then gone on to log 500 parachute jumps. He may deserve some kind of "aero" record for his hours acquired in the pursuit of adventure and achievement in aviation. Good luck, Terry, and welcome back to the fold.

During my four day visit, towing on the Heaney's east-west strip was constant and adequate. When required, the strip can safely accommodate two tow vehicles and get pilots into the air with minimum delay.

Activity on the training track kept Tove fully occupied and several students alternated between the training hill and the well

equipped new class room for study, video training lectures, etc.

Several students undergoing initial instruction in a current course came from the far west Darling River area – maybe interest will be ongoing in our sport in the far west as more people become aware of authorised schools. These guys and girls have the perfect area and climate on their doorstep to practice hang gliding and paragliding. It is to be hoped that more will join us to share the pleasures of our sport.

Heaney's school at Tarago is a "no frills" organisation a few k's out of town. Visitors should take their own food and water, especially now, as the effects of the drought are causing concern and water shortages. The local pub, "The Loaded Dog" of Henry Lawson fame, provides a comfortable and friendly atmosphere and a cold beer at the end of the day when everyone has a tale to relate or a question to ask of Grant, Tove or some of the more experienced pilots. With so much know-how, achievements and flying time in the gathering, the benefits are shared and enjoyed by pilots at all levels.

Although this story may have got away from me, it is nevertheless a true reflection of my enthusiasm for Tarago – I'll be back!

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I have recently returned from the inaugural National Trike Gathering at Wangaratta organised by the Southern Trike Club where I was able to catch up

with the microlight pilots prior to their trip along the Murray River. What an event! Forty-three trikes flew from Wang to where the Murray meets the ocean in South Australia and returned safely to Wang. It is flying cross country on events like this that really does show the potential of microlights.

Microlight Questions

While I was in Wang there were a number of frequently raised points discussed. Given that not all our triking members were there, I repeat the answers to these often asked questions:

Q: *There is a rumour that the proposed new CASR Part 149 will force all microlight pilots to join the AUF, will this be the case?*

A: No, definitely not. The HGFA will continue to administer microlights, as will the AUF. CASA policy is that with introduction of the proposed Part 149, any group of sport aviators will be able to establish an administrative association for their sport (obviously providing they can fulfil the Part 149 approval criteria). There are several valid reasons that support continuation of the HGFA administration of microlights:

- HGFA members have gained experience in weightshift aircraft unparalleled in Australia, through hang gliding and involvement in the development of microlights over the years.
- Many HGFA instructors use microlights to train hang gliding students in weightshift control techniques.
- A large proportion of HGFA microlight pilots also fly either hang gliders or paragliders (more than 1 in 5).
- Microlights are used extensively by HGFA members as hang glider tugs.

Q: *Why do we not have more articles relating to microlights in Skysailor?*

A: Suzy is always eager to print microlight articles. Unfortunately few are submitted. Paul Haines has agreed to look at operational and airworthiness microlight matters on my behalf, hence his regular reports in Skysailor. I therefore do not include a lot on microlights in my report. Send in your flying tales!

Q: *What do microlight members get for their State fees?*

A: The State associations determine how State fees are utilised. Funds are usually available for any worthwhile purpose, such as: site establishment, site improvement, to run State events or fly-ins, to purchase trophies for

OPERATIONS MANAGER'S REPORT

events, etc. I have even heard suggestions that money would be available for a Microlight Clubhouse! State Committees are prepared to consider any proposal from members, though it must be prior to funds being spent.

Q: *Why has the HGFA introduced the mandatory 5 yearly inspection requirement for microlights?*

A: Many other countries have an annual inspection requirement for microlights (by the manufacturer or an accredited agent). Given the size of our country and the problems in getting access to accredited inspectors, the HGFA resisted introduction of annual inspections. However, concerns at the level of maintenance carried out by some owners have led the HGFA Safety and Operations Committee to decide that a 5 yearly inspection is necessary. I am currently working with Airborne and the Pegasus importer to establish inspection criteria and accredit inspectors.

Q: *When will the 5 year term for microlight registration be implemented?*

A: It has already been introduced. The registration fee for initial registration is now \$200 which enables a microlight to be registered for a 5 year period. Renewal will only be available following a satisfactory inspection report and payment of the \$100 renewal fee. Those renewing existing registrations will have the registration expiry date extended to 5 years from microlight manufacture.

Q: *Do you fly microlights yourself?*

A: Yes, whenever I can. Though I am principally a hang glider pilot, I also fly microlights. I flew Larry Jones' new Wizard wing recently – and loved it! I just wish I could afford to own one, perhaps Airborne would like to loan me a Wizard to offer demos in during my travels!

Hang Gliding Fatality

Gladstone pilot Andrew Atkinson was killed recently when his hang glider broke up and spun to the ground. Andrew was an advanced pilot with about 1,500 hours flying experience. He was doing aerobatics at 7-800ft agl (after a tow launch). After several wingovers, the last of which was close to a loop, he stalled the glider upside down and fell into the sail. The glider tumbled twice backwards, broke up, and spun rapidly to the ground. He could not get his 'chute out before hitting the ground at high speed. Andrew was flying in one of the new harnesses manufactured by Aeros in the Ukraine. The harness has a compartment behind the pilot's knees for the emergency parachute. Though the parachute was not deployed, the velcro retained flap of the compartment was open. It was not possible to determine whether the flap had been torn

open by the pilot or on impact with part of the glider during the tumble. Due to the low height of the incident, Andrew had little time to deploy his chute. This task would have been more difficult due to him being thrown around violently during the tumble and subsequent spin.

Hang Gliding Fatalities Abroad

A member of the French National Hang Gliding Team, Eric Poulet and a member of the United States Team, Brad Koji have recently died in the northern hemisphere. These pilots were both very experienced and well known to Aussie pilots; Eric won the 95 Flatlands event in Hay and both pilots competed in the World Championships in Forbes last January. Two Greek pilots were also killed whilst competing in the cross-country leg of the World Hang Gliding series in Greece.

Eric Poulet was launching from a mountain launch in the Auvergne region of France on the first national team practice competition weekend of the season. He thought he had clipped into both the hang and security (safety) loops which were barely touching each other; but he clipped-in between (rather than onto) the two loops. The loops separated only after he took off, leaving him totally unclipped. He was unable to successfully deploy his reserve chute. The following is an extract from a report by Jim Zeiset: *"Brad Koji was thermalling in New Mexico, USA at about 10,000ft. This altitude was the top of a pronounced inversion, with a 90° windshear and associated turbulence. Once in this layer of air, his topless glider pitched over into a symmetrical tuck and probable tumble. The glider subsequently broke up. Checks of the tuning elements of the glider showed that all settings were within factory specifications.*

The lower ten feet of the parachute bridle cord showed signs of melting on the surface. This was most likely caused by friction of the bridle cord pulling tight around the pilot and glider as the parachute opened. This adds credence to the theory that the glider tumbled multiple times winding the parachute bridle around the pilot/glider assembly. Brad's parachute bridle was attached to his harness behind his neck. Brad had attached it this way in order to assure a feet down landing in the event of a deployment. Attaching the bridle in this manner will allow for the glider to hit the ground before the pilot, reducing the load on the descending parachute by 100lbs. and allowing the pilot to land at an even slower speed. (It also is thought to reduce drag by eliminating the bridle run to the carabiner.) It is reasonable to believe that the pilot and

glider would attain speeds of about 50 miles per hour and that opening shock would reduce that speed to about 20 miles per hour in about 1 second. The pilot would experience at least a 3G deceleration. The pathologist who performed the autopsy of Brad said, "The cause of death was the bridle chord for the parachute wrapped around his body or neck during the deployment sequence and when the parachute opened the bridle pulled tight around his neck causing two vertebrae to separate by approximately 1 inch severing the spinal chord. Death was instantaneous." "

Given the tragic circumstances of this accident I suggest that the conventional method of attaching the parachute bridle to the karabiner may be preferable to attaching it to the harness. A scant report has just been received from the World Hang Gliding Series in Greece. Two Greek pilots, Mike Theoharis and Alex Patarias failed to escape a sudden thunderstorm whilst flying cross-country. After being inside the clouds with temperatures below -20°C for more than 15 minutes, the pilots were rendered unconscious. They fell to the ground without control of their aircraft.

These fatalities reinforce that thunderstorms cannot be underestimated and should be avoided at all costs. When storms are forecast pilots must ensure that cloud development is closely monitored. At any sign of rapid cloud development or a sudden increase in lift, measures must quickly be taken to land safely.

Eucla Flying

With the growing popularity of flying the cliffs at Eucla on the Great Australian Bight, some basic safety recommendations have been formulated. Along the majority of the expanse of cliff there is no bottom landing. Last summer there was an incident where a visiting female pilot was lucky to escape uninjured when the expected lift was not encountered and she was forced to land her hang glider on a rock slide at the base of the cliff face. As she was not carrying radio, it took a considerable length of time to find her. Luckily the local rescue service was being reviewed at that time and there happened to be a number of visiting rescue personnel in Eucla. They were able to complete a safe rescue of the pilot and her equipment, though it did take several hours. Local resources are limited, it is recommended that pilots flying the area have their own rescue equipment and a support crew that is able to use it. Radio carriage is mandatory. Do not venture along the cliff without ensuring that there is adequate lift available, and obviously once on the cliffs it is essential to monitor the wind strength and direction constantly.

Before setting out for Eucla I suggest that pilots seek advice on flying the area from either Rohan Holtkamp on 03 53492845 or Gordon Marshall on 08 94519969, both these pilots have substantial flying experience in the area.

Motorised Hang Gliding and Paragliding

I have received reports of several incidents involving motorised hang gliders and paragliders. One such report was of an engine-out and subsequent emergency landing which resulted from neglecting to carry out basic pre-flight checks. The added complexity of an engine warrants development of a written pre-flight checklist. The checklist can either be memorised by use of a mnemonic, or printed on a card and referred to prior to each launch. I have also heard reports of pilots trying to teach themselves to fly with a power unit and coming to grief. These machines cannot be underestimated. Though you may have substantial experience in your aircraft without the power unit, the addition of the engine necessitates formal training in its use. If you are unsure of your nearest instructor, please contact either the Tumut office of the HGFA or myself.

Accident Reports

No. 1

Pilot: Advanced paraglider pilot
Experience: 250 hours
Aircraft: Int/performance paraglider
Pilot Injury: Nil
Aircraft Damage: One torn seam
Weather: Light crosswind
Location: Inland hill launch

Description:

The advanced pilot spent a considerable amount of time assisting several restricted pilots to launch with a light wind coming up the face. The car had left by the time he was ready to launch and, as is all too often the case, the wind had died off, was crossing, and occasionally blowing down the launch. Feeling tired, frustrated and agitated with his predicament he opted to launch anyway. On the second attempt in the difficult conditions, he managed to establish the glider, though during his launch run the wind crossed and he was turned toward trees beside the launch. On attempting to fly through a gap in the trees, the outside lines caught, the glider swung around a tree and he flared onto the face of the hill with the wing still snagged in the tree.

Comments:

Though luckily no injury resulted, the potential was there. The fact that he had not flown for a considerable length of time influenced his decision not to call for the car to return or to walk off the hill.

No. 2

Pilot: Restricted paraglider pilot
Experience: 43 hours
Aircraft: Standard paraglider
Pilot Injury: Nil
Aircraft Damage: 2 torn seams, damaged lines
Weather: Crosswind, strong turbulence
Location: Inland mountain launch

Description:

After hoping to reach a thermal on the leeward side of a spur, the pilot encountered strong turbulence and sink. He turned crosswind hoping to avoid the turbulence but encountered strong sink. On turning headwind for the landing paddock he realised it was not attainable and opted to head for a small alternate paddock. On quickly realising that he would not make the paddock he turned crosswind to make an emergency landing on a road. On approaching the road, further sink forced him to land in trees.

Comments:

The pilot commented that another option to turn tailwind may have allowed a safe tailwind landing. Whatever the possibilities, his options were limited. As often happens, the first bad decision (to head for a leeward thermal) led to another forced decision which could have been better made, which led to another option having to be taken, each option getting progressively less desirable. The pilot was well prepared, with dental floss, rope, a figure 8 tool and hook knife in his harness which made for an uneventful rescue – with the aid of patient helpers. Paul Haines informs me that: "The superior pilot uses his superior judgement to make superior decisions which do not force him to rely on his superior skills." Can't disagree with that Paul!

No. 3

Pilot: Intermediate hang glider pilot
Experience: 100 hours
Aircraft: Advanced hang glider
Pilot Injury: Nil
Aircraft Damage: Broken outboard leading edge
Weather: 20-25kt wind, strong turbulence
Location: Inland site

Description:

This site is several kilometres inland with a number of spurs running down the ridge. The pilot was following another pilot along the ridge; as he approached a spur the pilot encountered strong sink on the leeward side and lost height rapidly. Though he sunk into strong turbulence behind the spur he pushed on rather than turning tailwind into cleaner air. Further turbulence forced him below the spur, he attempted to turn away from the ridge and whilst distracted undoing the harness zip failed to maintain his heading to a safe landing area. Once unable to clear the spur, he was forced to flare into small trees behind it.

Comments:

The pilot commented that on reaching the 100 hour mark he felt very confident in his ability to handle any situation – apparently to the point of overconfidence. As an experienced pilot commented to me recently, we must fly defensively to fly safely. To do otherwise is to court disaster.

Fly safely,
 Craig Worth

Hang Gliding Federation of Australia Schedule of Fees

PO Box 558, Tumut NSW 2720 Phone: 069-472888, Fax: 069-474328

HGFA Polo Shirt with embroidered logo in navy, green, white (sizes 16-22)	\$30
HGFA Rugby Top with embroidered logo in navy, green, grey (sizes 16-22)	\$50
Cap with HGFA colour logo in red, blue, black, navy, green	\$15
HGFA colour logo embroidered badge	\$6
HGFA logo car sticker (no postage)	\$1.50
HGFA Hang Gliding Training video (23 minutes)	\$30
HGFA Competitions Manual	\$10
1998 Hang Gliding Grand Prix Series video (140 minutes)	\$45
HGFA Pilot Training Workbooks	\$5

Compulsory Annual Fee Structure

Membership Fee

12 months (FULL) HGFA Membership \$110

plus State & Regional Development Levies

West Australia	\$25
South Australia	\$30
Victoria, Tasmania & Queensland	\$20
ACT	\$35
New South Wales	\$35

New Member Joining Fee

incl. 1st pilot certif. & m/ship package	\$30
Family Membership (12 months) (plus State & Regional Development Levy)	\$60
Short Term Membership (4 months)	\$80
Visiting Pilot Membership (4 months)	\$50
FAI Sporting Licence, incl. competitions manual, FAI Badge & Records pack	\$10

Certificate & Insurance Fees

Powered Operations Insurance Levy	\$20
Passenger Endorsement annual renewal	\$175
Instructor Certificates annual renewal	\$175
Combined Instructor with Passenger Carrying Endorsement annual renewal	\$300
Microlight Aircraft Registration	
Initial Registration, valid 5 years	\$200
Microlight Aircraft Registration Renewal, with 5 yearly inspection documentation	\$100
Skysailor Subscription, for non-members only, 12 months subscription	\$55
Skysailor Overseas Airmail	\$35
International Pilot Proficiency Identification	
IPPI Card for overseas flying	\$10
Replacement Operations Manual	\$10
Replacement Operations Manual Binder	\$15
HGFA Log Book	\$5

Training Facility – Inspection and/or Approval fee ¹	\$80
Microlight Instructor Examination & check-flights (payable to Microlight Examiner)	\$50
Level 1 Club Coach (Valid for 4 years Issue & renewal – includes FAI Sporting Licence, manuals, etc)	\$30
Level 2 Competitions Coach (incl. ACC training course, registration & manuals, etc) ²	\$30
<i>Please add \$3 postage & packing for all orders. Bulk orders sent C.O.D. Cheque, money order, bankcard, visa and mastercard accepted, phone orders welcome. Actual prices may vary from those shown. Terms: payment with order. Delivery 14 days when ex stock.</i>	

¹ Charged at \$80 per half day of inspection plus travel expenses (max. \$250 per inspection/approval).

² Includes all updated material from Level 1.

Membership Application

Please complete in BLOCK letters

Surname _____ Given Names _____

Address _____

State _____ Postcode _____

Birth Date _____ Home Phone _____ Work Phone _____

Club _____ Occupation _____ Sex M / F

Please read and sign Membership Declaration below

Please provide the following information and tick appropriate boxes:

HGFA Number (if known): _____ Instructor _____

Membership Type:	New Member <input type="checkbox"/>	Renewal <input type="checkbox"/>	Re-joining Member <input type="checkbox"/>	Family Member <input type="checkbox"/>
	Visiting Pilot Member <input type="checkbox"/>	Short Term Member <input type="checkbox"/>	Subscription Only <input type="checkbox"/>	
Discipline:	Hang Gliding <input type="checkbox"/>	Paragliding <input type="checkbox"/>	Microlighting <input type="checkbox"/>	Parascending <input type="checkbox"/>

Membership Declaration (must be signed to gain membership)

I, the undersigned, wish to apply for renewal of my HGFA membership and HGFA Pilot Certificate/s and Endorsements.

Please note: The constitution provides for a limitation of liability no persons such as officers, instructors, safety or duty officers and competition organisers and their helpers to an amount which can actually be recovered under the HGFA insurance policy. If for any reason no amount is recoverable, the liability is nil.

I understand that membership entitles me to Pilot Certificates and Endorsements to operate the specified aircraft in accordance with Civil Aviation Regulations and the HGFA Operations Manual and Third Party Liability Insurance within Australia (\$1,000 excess).

I am aware that the HGFA is assisted by the Australian Sports Commission, and as a result understand that the HGFA Doping Policy condemns the use of performance enhancing substances as both dangerous to health and contrary to the ethics and ideals of sport.

I hereby agree to abide by the constitution, rules and regulations of the HGFA.

Member's Signature _____ Date _____

Payment Details

HGFA Membership fees (\$110 Full or \$55 Family, \$30 Joining fee) (For family members, please provide name of full member with whom you reside.) \$ _____

Regional Development Levy (Determined by your State/Region of residence – see above) \$ _____

Weightshift Microlight Levy (\$20) (For HG & PG motorised endorsement also) \$ _____

Total Amount due (and enclosed) \$ _____

I wish to pay by: Cheque ☐ Postal Order ☐ Credit Card ☐ Card Number _____ / _____ / _____ / _____ Expiry Date _____ / _____

(Visa, MasterCard, Bankcard only)

Cardholder's name _____ Cardholder's Signature _____ Dated _____

Hang Gliding Federation of Australia, PO Box 558, Tumut NSW 2720 Phone: 069-472888, Fax: 069-474328

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E-mail address is chgpgc@goulburn.net.au

Victoria

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Email: rightalt@benalla.net.au

Victoria continued

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Mobile: 018 815094.

New South Wales



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Phone Godfrey Wenness on: 02 6785 6545
or fax : 02 6785 6546

"The Mountain", Manilla, NSW, 2346.

New South Wales continued

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066 290354, mobile 014 615950.

PO Box 227, Rainbow Beach, QLD 4581.

Queensland

Rainbow PG Fly sunny QLD this winter!

Rainbow is one of the world's best coastal soaring sites, with year round flying, situated 3 hours north of Brisbane and 12km south of Fraser Island, surrounded by amazing beaches and National Parks. RPG offers the opportunity to experience winter flying from a selection of well established coastal and inland sites.

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Jean-Luc Lejaille. Phone +61 7 5486 3048.

Mobile 0418 754 157. Fax +61 7 5486 3288.

Email intheair@ozemail.com.au

www.ozemail.com.au/~intheair

Deadline for classifieds for the October/November issue is strictly the 1 September 1998

SKYSAILOR CLASSIFIEDS ORDER FORM

Private classifieds are free to financial members, providing the membership number is quoted. Ads appear for 1 issue only. For non-members and commercial advertisers the following rates apply:

Per standard typeset line (approx. 6 words) \$2 (minimum charge \$8)
Per small B/W picture or logo scanned \$10
Special typesetting \$1 per line

First few words appear automatically in bold.

These rates take effect from 1 December 1996.

Deadline is the 1st of the month, four weeks prior to the issue in which you want your ad to appear. Payment is in advance.

Classifieds section:

Hang Gliders	NSW..... <input type="checkbox"/>	SA..... <input type="checkbox"/>	Wanted..... <input type="checkbox"/>
& Equipment <input type="checkbox"/>	QLD..... <input type="checkbox"/>	WA..... <input type="checkbox"/>	Stolen..... <input type="checkbox"/>
Paragliders <input type="checkbox"/>	VIC..... <input type="checkbox"/>	TAS..... <input type="checkbox"/>	Lost & Found..... <input type="checkbox"/>
Microlights <input type="checkbox"/>	ACT..... <input type="checkbox"/>	NT..... <input type="checkbox"/>	Other..... <input type="checkbox"/>

Invoicing address (free for current members):

Name: _____

Membership Number (for private ads only): _____

Business name (commercial ads only): _____

Address: _____

City _____ State/Postcode _____

Phone _____

To appear in the following issues (for commercial ads only):

October <input type="checkbox"/>	February <input type="checkbox"/>	June <input type="checkbox"/>
December <input type="checkbox"/>	April <input type="checkbox"/>	August <input type="checkbox"/>

Instructions for enclosed pictures, logos or special typesetting:

Classified ad text:

Skysailor Classifieds MAIL: PO Box 197, Helensburgh, NSW 2508 **OR FAX:** 02 42943732 **OR EMAIL:** skysail@ozemail.com.au

DEADLINE FOR THE NEXT ISSUE: 1 September 1998



Private classifieds are free to members if the membership number is quoted. Commercial rates of \$2 per line apply to non-members and commercial advertisers. For more details, refer to Classifieds order form.



HANG GLIDERS AND EQUIPMENT

New South Wales

Aero 145 nov, GC, \$1,000. Also: XT 165 int, needs lower wires replaced, \$2,000 ono. Ph: Daniel 02 93150727, email: dfaber@kensocoll.unsw.edu.au

Airborne Floater 190 Fun int. Sick of bombing out, slamming in, can't top land & want to fly 100km? This one's new, 23kg & a bargain \$3,500. Also: **Sting 154 X** int, brand new, test flown, hot colours, speed bar, faired DTs, Mylar LE, unwanted prize, ready to go, go, go, \$3,500. **Sting 154** int, 60 hrs, VGC, Mylar LE, new luff lines, speed bar, good colours, flies straight, no flutters, \$2,400.

Buzz 154 nov, well used, well maintained, flies great & straight, bargain \$1,000. Gyro 160 I nov, GC, easy flying, needs new bag, cheap, \$400. **Tandem Moyes X2 210**, dbl surface with VG, 20 hrs use, EC, perfect for aerotow, absolute bargain, \$2,800, stainless wheels & keel extension, \$400.

Harnesses: new Skyline, suit slim/med 5'11, worth \$1,400, 1st caller \$850. Moyes pod, M, blue, GC, \$200. Full length apron harness, coastal cruising, \$100. Moyes aerotow release \$50, Apco full face helmet, new, M, \$130, Bräuniger Basis vario, as new, \$430. Ph: Jason Turner 02 49408665 or 0419 997196.

Airborne Sting int, blue/green, ideal for 60-80kg pilot, speed bar, all new wires, Moyes base bar wheels, great 1st glider, \$1,200 ono. Also: Moyes custom Flex harness, lt & dk blue, 181cm, 70kg, as new, only 15 hrs, \$500 ono. Must sell quickly! Ph: Leo 02 44551187 or 02 99823750.

CSX6 adv, as new, \$6,500 ono. Ph: David 02 93635555.

Complete Outfit: XS2 155 adv, EC, \$600; Moyes Xtreme harness with OK front mounted chute (never used) suit 178cm, med build, \$400; Flytec 3005si with airspeed probe \$350; Icom IC40GX UHF handheld with PTT \$350 or \$1,500 the lot. Ph: 0417 205260 24hrs a day or 02 62941033 before 9pm.

Elite 150 int, white/mauve, 30 hrs, spare LE & 4 DTs, tops out on every thermal, \$2,800 ono. Charly front entry harness, suit 6'-6'3, Enterprise logo on the side, complete with Charly parachute, \$1,200 ono. Ph: 02 95791360 (h), 02 97731399 (w).

Explorer motor harness, as new, 5 hrs flown, chute fitted, suit lean pilot to 6'3. Also: **Sting 154** int, 130hrs flown, \$6,800. Will sell separately. Ph: Chris 02 65712026.

Falcon 195 nov, new glider at 2nd hand price, great colours, super light handling & a sink rate to get to the top of the stack, great for any type of flying from dunes to cloudbase, can ship if necessary, \$2,500. Ph: Alan 02 49449222 (Newcastle).

HG harness by Danny Scott, suit pilot approx. 178cm (5'10), High Energy Sport parachute, Sjöström vario, all in VGC. Ph: 0418 232343

Max 157 int, EC, fl. yellow/orange US, white TS, low hrs, \$4,000. Also: Sting 166 int, GC, blue/orange US, white TS, still unreal to fly – a Skyfloater! \$1,000. Ph: Smithy 02 65632270, fax: 02 65632095.

Moyes Mission 170 int, new wires, EC, great 1st glider, suit beginner, \$1,150 ono, Flytec 3030 vario, remote airspeed, only \$650. Ph: Simon 02 99232448, 0413 870612.

Moyes XT Pro 165 int, fl. orange scrim LE, blue/white/orange sail, speed bar, faired king post & DTs, Moyes pod, fl. yellow & black, low hrs, \$3,000 firm. Ph: 0418230209.

Shark 156 adv, white/grey US, new side wires, spare sail, 200 hrs, flies beautifully & lands like a dream, \$3,000 ono. Ph: Karl 02 49647510 (w), 02 49647193 (h).

Sting 118 int, 20 hrs airtime, needs a good home, ideal for weight range 45-60kg, \$1,350 ono. Ph: Rick 02 44460302.

Sting 154 int, 25 hrs only, immac., Mylar LE, speedbar, spare DT, magenta LE, lt blue/lilac US, very attractive glider, \$2,200. Also: Wingtech tow release MK2 \$30. Ph: Geoff 02 43285092 (Gosford).

Sting 154 int, only 8 hrs flying time, immac. cond., \$2,800. Ph: Pete 02 63319626 (h), 02 63373733 (w).

Wills Wing HP-AT 158 adv, high perf. hang glider, built 94, EC, never crashed, white sail, pink LE, great glider, must sell, \$1,250 ono. Ph: Mike 02 99992696 (w).

Queensland

Exxtacy adv, as new, yellow/white TS, save \$1,000s on new price, \$13,000 or less with suitable trade. Ph: Jerry Funnell 07 55711576 (Gold Coast).

Moyes XT 180 int, GC, pod harness & chute, helmet, tow bridle, \$2,400. Sell as one. Ph: Geoff 07 54491363, 0418 876158.

Sting 166 int, rainbow sail, speed bar, hand warmers, VGC, \$1,600. Also: Moyes Tracer harness, front entry, chest mount chute, suit big int (6ft plus), 18 mths old, VGC, \$630, Bräuniger vario, PC, \$380, Apco pulled apex parachute, 18 mths old, PC, \$410. Ph: Tony Gates 07 33983241 (Brisbane).

2 x XT Pro165; XT Pro145; 3 x Mission 170; 3 x Twister harnesses; 4 x pods; 3 x parachutes; ICOM IC40's; tow bridles and much more. Make an offer! Can also deliver in NSW. Ph: Sue 07 55462079.

Victoria

2 Ultra Com helmets with intercom box, PTT button & leads, \$500 ovno. Ph: Peter 03 52443870.

Moyes Mission 170 int, pod, vario, 18 gore parachute, headset, \$1,900. Ph: Trevor 03 97467075.

Moyes XT 165 int, VGC, with small Moyes wheels, bar mitts, spare DT, approx. 50 hrs, \$2,200; Danny Scott Twister harness, suit pilot approx. 5'8, \$400. Also: Blitz 146 adv, with harness & parachute, \$1,500. Ph: Andrew Medew 03 97909085 (w) or 03 98904894 (h).

Shark 156 adv, red/purple US, 130 hrs, VGC, \$3,200. Also: Solarwings Edge harness, chest mounted chute, twin sliders, suit pilot 175cm, 80-85kg, \$350. 38GPS, VGC, \$200 – taking up lawn bowls. Ph: Phil 014 942634.

Sting 154 int, brand new cond., flown less than 14 hrs, white, lt blue/mauve US, \$3,200. Ph: 0417 389562 or 03 95631162.

XS 142 adv, as new cond., 30 hrs airtime, quick sale, \$900. Also: Pod harness, parachute, racket, Ball 651 vario, Foil 150B DT, make an offer! Ph: Tony 03 51339258.

Xtralite 147 adv, Power rib blue LE, blue/mauve US, 130 hrs, excellent perf. & handling, well cared for glider in GC, c/w owner's manual & batten profile, \$2,200. Flytec 3005 vario, \$450, pod harness, L, \$100. Ph: Glenn 03 98761312 or 0411 814420.

Western Australia

Rage 157 int, 25 hrs, as new, lt blue US, green trilam LE, speed bar, wheels, bar mitts, waterproof bag, same as Moyes Max, \$2,900 ono. Ph: Michael 08 94461262 (h).

ACT

Gyro 145 nov, blue/white/pink, EC, less than 12 hrs airtime, make an offer. Ph: Susan Martin 02 62415544 (w) or 02 62369000 (h).

Mission 170 int, dk blue/lt blue/white, GC & flies well, 60 hrs of TLC over the last year, incl. wheels, manual, batten profile, spares, \$850. try at Bright, ACT or Stanwell. Ph: John 02 62816830, 0412 159472.

South Australia

Foil Combat 152 adv, \$500 ono; Rogallo ca. 1974, collector value, give away; Maxi style ca. 1977, airworthy & collector value, \$100; Electrophone TX475, handheld UHF CB \$250; Moyes Xact harness with chute \$400; Pentax databack camera \$60; tow rope \$50; tow gauge \$50; Chaser trike, unfinished project, will separate components, \$4,000. Ph: Chris Charters 08 83252624.

XS 142 adv, easy handling, skies out, one careful lady owner, \$500 ono. Ph: Sue 08 83778641 in evenings.



PARAGLIDERS

Please note: All paragliders offered for sale must state their DHV or Acapul certification standard, otherwise they will be labelled with 'No Certification Information Supplied (NCIS)'.

New South Wales

Airwave Samba 26 Acapul int/perf, suit 65-85kg pilot, GC, trimmers, manual, suit budget-minded buyer or HG pilot's 1st canopy, \$1,800. Also: Apco full face helmet, new, \$130, Bräuniger Basis vario, as new \$430. Ph: Jason Turner 02 49408665 or 0419 997196.

Edel Rainbow L NCIS, suit adv pilot, \$1,500 ono, VGC, low hrs, purple. Ph: Nigel 02 64576452.

Firebird Navajo 28 10A 1B 1C, very low hrs, EC, adv glider, ideal for powered PG, purple/white. \$900. Also: Firebird Sitting Bull harness, very comfortable, incl. Kevlar backplate with crumple zone & Firebird RS2 reserve, never used, \$600. Can also deliver in VIC. Also: **Swing Minoa 28** DHV3, white, speed system & trimmers, GC, int/adv canopy, 53km/h top speed, no porosity or tears, \$1,800. Ph: Suzy 02 42943732.

Nova Sphinx 125 11A 1B, VGC, purple/white, launch weight 80-95kg, \$2,800. **Perché Tigra** harness, VGC, loads of storage space, purple/black, \$400. **Perché columbus** reserve, 100kg max load, \$800. **Davron 300T** vario, \$100. Also: **Swing Axis I 23** 12A, purple/red/yellow/white, \$1,000. **Edel Securamax** reserve, size 30, \$200, **Scorpio** harness with airbag insert protection, \$300. Ph: Lindsay 02 69472075.

Paratech P21 NCIS, incl. harness, approx. 5 hrs airtime, like new, \$1,950. Ph: Ivo 02 98733375.

Perché Graffiti M DHV1-2, nov/int, 70-90kg, pink/yellow design, EC, as new, 1st owner, 12 hrs airtime only, \$3,300 ono. Also: Moskito RX harness, black/purple, carabiners fitted, new reserve, **Perché Oskar 16**, 90kg, integral protection backplate & air/water tank, 15l, all made in Germany, EC, only \$1,650, independent airworthiness check available. Ph: Ole 02 65597762.

Victoria

Edel Saber M DHV2, weight in flight 75-95kg, int/adv, 17 hrs, still crisp, \$3,250 ono. Also: **Edel Pro** Light harness with reserve \$1,000, very comfortable with leg support. Ph: Steve 0419 531912, 03 96457485 (h).

Paratech P50 27m² DHV2/12A, easy to launch & fly int glider with V-rib design. Responds well with light brake pressures. Suit 65-90kg pilot (80-104kg all up). In excellent condition with only 30-35hrs. Selling because I need a larger glider. Bargain at \$1,600. Ph: Tilo 03 59622272.

Classifieds



TRIKES

Please note: All powered hang gliders (trikes) offered for sale must state their registration number, otherwise they cannot be accepted for publication.

New South Wales

Airborne Edge wing T2-2547, EC, \$3,800.
Ph: Richard 02 65505789.

Edge Executive 582 T2-2642, 150 hrs, with quiet kit, always hangared, trailer, Icom A20 & chargers, intercom, 2 helmets, GPS, training bars, plus..., \$17,500. Ph: Bruce 02 49320741.

Quantum 462 trike T2-2766, A1 cond., high power Rotax 462, comms & helmets, \$16,995. Ph: Don Woodward 0417 696461 (mob), 02 60363042 (messagebank or fax/ph).

Queensland

Airborne Edge Executive T2-2684, 119 hrs, Brolga 4 blade prop, electr. start, quiet kit, extra instr., Lynx helmets & intercom, VHS radio, GPS, complete covers, many extras, always hangared, EC. \$19,500. Ph: 0419 711975 or 07 55466496

Northern Territory

Airborne Edge 582 T2-2725, full instr., training bars, Icom radio, 2 flying suits, 160 hrs TT, this trike in EC, maintained meticulously & always hangared, \$12,000. Ph: David 08 89528518.

Subscriptions

Cross Country Magazine subscriptions hang, para and micro flying videos. Contact Carol Binder 0417 311360.

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Wooden Propellers manufactured custom designed for optimum performance & quiet operation.

Contact Michael Ellinas,
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Ph: (03) 9363 8085 VIC

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02 6947 2888

The Skysailor Classifieds Fax Service is still available on:
02 4294 3732

or write to: **Skysailor Classifieds**

PO Box 197, Helensburgh NSW 2508

or email:
skysail@ozemail.com.au

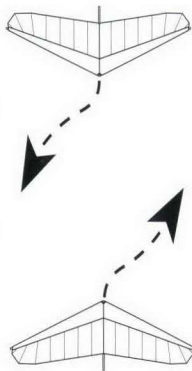
Rules of the Air

Illustrations courtesy of Airborn magazine, NZ

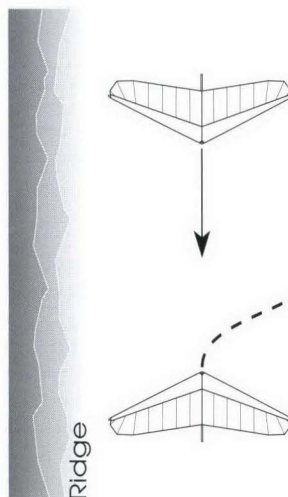
The glider with right of way shall maintain course and speed, according to the following rules. It is the responsibility of all pilots at all times to take all possible measures to avoid collision.

HEAD ON:

When two gliders are approaching each other head on, or approximately so, each pilot shall turn right.

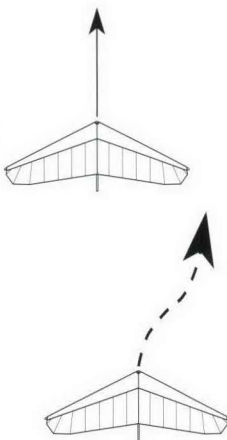


HEAD ON, ON THE RIDGE: Pilot with the ridge on their right has right of way (and may stay closest to the ridge).



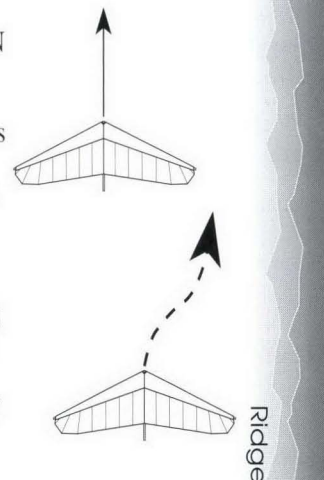
OVERTAKING:

The overtaking pilot shall keep well clear of the glider they are overtaking by passing on the right side.

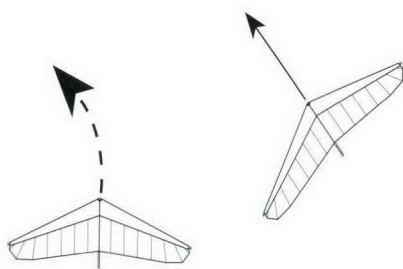


OVERTAKING, ON THE RIDGE:

The pilot who is overtaking shall pass between the other glider and the ridge. This is so that the glider being overtaken does not turn into the passing glider. (When ridge soaring, turns are normally done away from the ridge.)

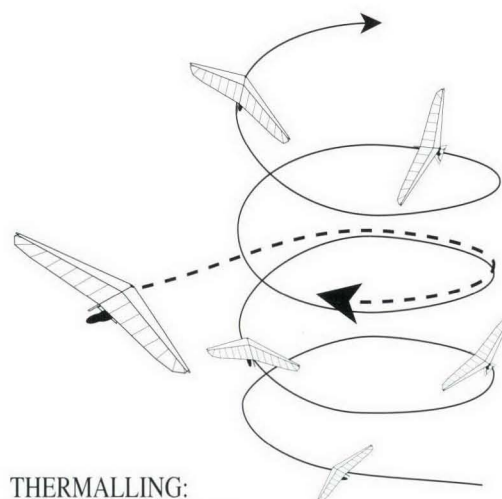


CONVERGING: When two gliders are converging at approximately the same altitude, the pilot which has the other on their right shall give way.



LANDING: The lower glider has the right of way, but should not cut in front of another glider which is on final approach.

If a pilot is aware that another glider is making an emergency landing, they should give way to it if it is possible to do so safely.



THERMALLING:

The first glider in decides which direction to circle and all others must follow the same direction.

OVERTAKING WHILE CLIMBING: The lower glider has right of way. The top glider must let the lower glider through as the lower glider can not see clearly above. This also applies when ridge soaring.

DIRECTORY



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

Hang Gliding Federation of Australia

Executive Director: Ian Jarman
Administration: Margaret Steinhardt
PO Box 558, Tumut NSW 2720,
ph: 02 69472888, fax: 02 69474328,
email: hgfa@tpgi.com.au

President: Rohan Grant

188 Bathurst St, Hobart TAS 7000, ph: 03 6233 7638 (w), 03 62311112 (h), 0419 344011, fax: 03 62333311, email: rohan.grant@ccd.tas.gov.au

Treasurer: Robert Woodward

38 Addison Rd, Black Forest SA 5035, ph: 08 82325405 (w), 08 82977532 (h), fax: 08 8223 7345, email: benchpos@dove.net.au

Secretary: Tim Cummings

252 Kidston St, Canungra QLD 4275, ph: 07 55435093 (h), 0418 778422, fax: 07 55434493, email: tim@eis.net.au

Vice-President: Keith Lush

5 Fortune St, Sth Perth WA 6151, ph: 08 93679066 (w), 08 93673479 (h), fax: 08 94741202, email: keith.lush@hds.com.au

Board Members:

Shaun Keane

12 Majura Pl, Jerrabomberra NSW 2619, ph/fax: 02 62998792 (h), 0411 722574, email: actpara@netspeed.com.au

Lee Scott

High Adventure Airpark, Pacific Hwy Johns River NSW 2443, ph/fax: 02 65565265, 0419 844961, email: highadv@midcoast.com.au

Rohan Holtkamp

RMB 236B Western Hwy, Trawalla VIC 3373, ph/fax: 03 53492845, 014 678734.

Keith Lush

5 Fortune St, South Perth WA 6151, ph: 08 93679066 (w), 08 93673479 (h), fax: 08 94741202.

Michael Zupanc (CIVL Delegate)

3 Surch Court, Southport QLD 4215, ph: 07 55325895 (h), 018 662328; email: zupy@ozemail.com.au

Peta Roberts

PO Box 256, Helensburgh NSW 2508, ph/fax: 02 42943491, email: epicon@ozemail.com.au

Operations Manager: Craig Worth (Safety & Operations Committee, Pilot Development & Training Committee)

PO Box 71, Hallidays Point NSW 2430, Ph/fax: 02 65592713, 0418 657419, email: hgfaops@midcoast.com.au

Microflight Public Relations: Paul Haines

Ph/fax: 02 42941031.

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

States & Regions

North Queensland Hang Gliding Association

12 Van Eldik Ave, Andergrove QLD 4740; Pres: Gerry Gerus 019 617935, ph/fax: 070 34145; Sec/Trs: Ron Huxhagen 079 552913, fax: 079 555133.

New South Wales Hang Gliding Association

Sec: Steve Hocking, 19 Gladswood Gdns, Double Bay NSW 2028, ph/fax: 02 93274025, email: nswhga@s054.aone.net.au

36 Skysailor

Victorian Hang Gliding & Paragliding

Association PO Box 400, Prahran VIC 3181; Pres: Phillip Campbell 03 53343034; Sec: Nicole Matthews 03 57501884, 018 450626, email: nicolematthews@hotmail.com, SSO: Jeremy Torr 03 97705770.

ACT Hang Gliding & Paragliding

Association PO Box 3496, Manuka ACT 2603; Pres: Michael Porter 02 62573099 (w), 02 62496434 (h); Sec: Lisa Kelly; Trs: Stephen Young 02 62882657 (w), 02 62883330 (h), SSO: Peter Dall; Meetings: 1st Tue/month 7:30pm, "Sky Lounge" Yamba Sports Club, Phillip.

Tasmanian Hang Gliding Association

PO Box 163, South Hobart TAS 7004; Pres: Brett Tooker 03 62316367; Sec/Trs: Hugh Glenn; State Co-ord: Mick Calvert.

South Australian Hang Gliding Association

1 Sturt St, Adelaide SA 5000; ph: 08 84101391, fax: 08 82117115. Pres: Stuart McClure 08 82973452; Sec: Mark Tyminski 08 83766117; Trs: Gary Stockton 08 82702910.

Hang Gliding Association of Western

Australia PO Box 82, South Perth WA 6151; Admin: Graeme Wishart 08 94449505; PG Rep: Julian McPherson 08 93881584 & David Humphrey 0418 954176; HG Rep: Michael Derry 08 92840750 (h) & Keith Lush 08 93673479 (h), 08 93679066 (w); Trike Rep: Graham McDonald 08 93649226 (h), 0418 910841; Trs: Phil Wainwright 08 92424483.

Clubs

NEW SOUTH WALES

Blue Mountains Hang Gliding Club Inc

Pres: Graeme Garlick 02 96286245; Sec: Alan Bond 02 98995351, 9 Finchley Pl, Glenhaven NSW 2353; SSO: David Middleton 02 96236961. Meetings: Last Tue/month 7:30pm, Sportsman Hotel, Kildare Rd, Blacktown.

Byron Bay Hang Gliding Club Inc

Pres: Brian Rushton 02 66290354; Sec: Chris Gavaghan 02 66882213; SSO: Brian Rushton 02 66290354, 014 615950; Meetings: 1st Wed/month 7pm, Bangalow Bowling Club.

Central Coast Hang Gliding Club

Pres: Russell Skillen 018 404254; Sec: Mark Steele 02 43321277; Trs: Mick Hoipo 02 43282871; SSO: Ian Duffy 018 439612; Meetings: 2nd Wed/month 7:30pm, The Entrance RSL Club.

Central West Hang Gliding Club

Pres: Len Paton 02 68537220; Sec: Jenny Ganderton 02 68514148; Trs: Mark Madden 02 63622927.

Illawarra Hang Gliding Club Inc

Pres: George Barrie 02 42855567; Sec: Warwick Kelly 02 42261707; SSO: James Nathaniel 02 46810641; Meetings: 1st Wed/month, Mountain Top Cafe, Mt Keira.

Kosciusko Alpine Paragliding Club

Pres: Roger Lilford 06 2815404 (h); Sec: Lisa Ryrie 06 2359120, 06 2359060; SSO: Heinz Gloor 02 64576019 (w), 02 64567171 (h).

Manilla SkySailors Club Inc

http://gri.une.edu.au/mss Pres: Brian Shepherd 02 67852182; Sec/Trs: Felix Burkhard 02 67751050, mailto://felixb@xyon.com.au; SSO (HG): Patrick Lenders 02 67783484; SSO (PG): Godfrey Wenness 02 67856545.

Mid North Coast Hang Gliding Association

Pres: Paul Hazelgrove 018 657366; Sec/SSO: Lee Scott 02 65565265; Ben Leonard 02 65821966.

Mudgee District Sport Aviation Club Inc

Sec: Darryl Ashlin 02 63742536; SSO: Bruce Barcham 02 63742092.

Newcastle Hang Gliding Club

Pres: Clive Warman 02 49434900, 0418 293615, cwar@ozemail.com.au; V-Pres: Peter Ebeling 02 49585193; Sec: Karl Kindle 02 49653278; Trs: Tony O'Connor 02 49529146, SSO: Inland - Al Giles 02 49430674, Coastal - Jason Turner 015 636384; Comps: Jeff Blunt 02 49505568; Newsletter: Paul Green 02 49771708; PG Rep: James Thomson 02 49438105, 018 686199. Meetings: Last Wed/month, Souths Leagues Club.

Northern Beaches Hang Gliding Club Inc

Pres: John Clark 02 99972842 (h); Sec: Mike Warner 02 94521217 (h), 02 95573188 (w); SSO: Mike Eggleton 02 94517127, Forrest Park 02 94502674, Glenn Salmon 02 99180091.

Stanwell Park Hang Gliding Club

PO Box 258, Helensburgh NSW 2508; Sec: Gavin Hanlon; Trs: Karen Lederer 02 42942273 or 0411 362273.

Sydney Hang Gliding Club

Pres: Dick Heffer 02 93872613; Sec: John Trude 02 98873371; Trs: Greg Wilkinson 02 98184704; Meetings: 2nd Mon/month, Moyes Factory Loft.

Sydney Paragliding Club

Pres: Rob Fakes 02 42942273 (h); Sec: Duncan Cross, 48 Cormiston Ave, Concord NSW 2137, 02 97435128; Trs: Dave Worthington 02 9665 1465; SSO: Mark Mitsos 02 42949065, Meetings: 1st Mon/month, St George Leagues Club, Kogarah.

University of NSW Hang Gliding Club

Pres: Daniel Faber 02 93150727, email: dfaber@kensocoll.unsw.edu.au; Sec: Jon Ingles 02 93150571, email: jingles@kensocoll.unsw.edu.au; www page: www.vision.net.au/gbeng/Hang_Gliding.html

QUEENSLAND

Cairns Hang Gliding Club

Pres: Russell Krautz 070 541085; Trs: Kasanda Brease 070 558559; Sec: Lance Keough 070 912117, 31 Holm Street, Atherton QLD 4883.

Canungra Hang Gliding Club Inc

Pres: Peter Beard 07 33487150, Peter_Beard@msn.com; Vice-Pres: Ken Hill 07 55435631, kenhill@qldnet.com.au; Sec: Tony Gates 07 33983241; Trs: Yve Beard 07 33487150, Peter_Beard@msn.com SSO: Gordon Mackenzie 07 55450146.

Capricorn Skyriders Club Inc

Pres: Brian Hampson 079 226527; Sec: Geoff Craig 079 923137; Brian Smith 079 287958.

Conondale XC Flyers Club Inc

13 Cottman St, Buderim QLD 4556, Fax: 07 54451897.

Gladstone Hang Gliding Club

4 Cairncross St, Gladstone QLD 4690; Pres: Pat Purcell 07 49793414; Sec: Sandy Gemmel 07 49750232; PR: Paul Barry 07 49922865.

Sunshine Coast Hang Gliding Club

53 Yungar St, Coolool QLD 4573; Pres: Michael Powell 07 54742249, 018 166320; Vice-Pres: Mal Price 07 54480038; Sec/Trs: Cathy Edmunds 07 54463421; SSO: Dave Cookman 07 54498573.

Townsville Hang Gliding Association Inc

Pres: Gary Rogers 077 538565 (w), 077 79264511 (h); Vice-Pres: Peter Scarfe 077 721766 (w), 077 212666 (h); Sec/Trs: Brad Cooper 077 792853 (h), fax 077 815230; SSO: Graeme Etherton 077 724467.

Whitsundays Hang Gliding Club

Pres: David Nash 07 49531817; Sec: Ron Huxhagen 07 49552913, Fax: 07 49555122, email: sitework@mackay.net.au

VICTORIA

Dynasoarers Hang Gliding Club

Pres: Peter Hannah 03 52632335; Sec: Tony Hughes 03 52612415; Trs: Rod Trevor 03 52811209; SSO: Ted Remeika 015 841107; Rob van der Klooster 03 52223019; PR: Warwick Spratt 03 52531096. Meetings: 1st Fri/month, Anglesea Hotel, Great Ocean Rd, Anglesea.

Eastern Hang Gliding Club

Pres: Geoff Tozer 03 97583250 (h); Sec: Glenn Sheppard 03 97267995 (h); SSO: Harry Summons 03 59646055 (h), Lance Sheppard 03 59623570 (h), M/ship: Mark Jeffree 03 59689015 (h). Meetings: 3rd Wed/mth, Montrose Town Centre Meeting Room, Cnr Swansea Rd & Mt Dandenong Tourist Rd, Montrose.

North East Victoria Hang Gliding Club Inc

Pres: Jeanette McLaren 03 57544910; Trs: Dave Romeril 03 57562216; Sec: Karl Texler 03 57501733; SSO: Geoff White 03 57501244; Meetings: 1st Thu/month 7.30pm, Pinewood Hotel, Bright. www.home.aone.net.au/gilbert/nevhc.htm

Sky High Paragliding Club

Pres: Richard Worton 03 95835083 (h); Vice-Pres: Hamish Barker 03 92917717 (w); Sec: Lucy Wickham 03 95835083 (h); M/ships: Phillip Taylor 03 95314842 (h); Meetings: 1st Wed/month 8pm, Grapevine Hotel, 59 Wellington St, Collingwood.

Southern Cross Paragliding Inc

Pres: Gary Clarkson 0419 319948; Vice-Pres: Alister Johnson 0418 323692; Sec: Nicole Matthews 03 57501884, 018 450626, email: nicolematthews@hotmail.com Meetings: Last Wed/month.

Southern Hang Gliding Club

Pres: Mike Slape 03 95438331 (h); Meetings: 1st Tue/month, Anchor & Hope Hotel, 481 Church St, Richmond.

Western Victorian Hang Gliding Club

Pres: Phillip Campbell 03 53343034; Vice-Pres: Tony Lowry 03 53356194; Trs: Sandra Holtkamp 03 53492845; Sec: Meg Bailey 03 53356194; SSO: Rohan Holtkamp 03 53492845; Meetings: Last Sat/month, The Golden Age Hotel Beaufort.

WESTERN AUSTRALIA

Avon Valley Hang Gliding Club

Pres: David Drabble, 08 93071816; Vice-Pres: Rob Stevenson 08 92211338; Sec: Stephen Hoeffs 08 95275782; Trs: Michael Derry 08 92840750; www: http://kite.ois.net.au/~treetop/hangie/avon/eagles.htm.

Cloudbase Paragliding Club Inc

Pres: David Humphry 08 92453317; Sec: Liz Kendall 08 94590445. Meetings: 1st Wed/mth, 8pm at the Windsor Hotel, Sth Perth.

Geraltion & Midwest Hang Gliding Club

Pres: Darren Nichol 08 99644457; Sec/Trs: Des Hill 08 99216219, 231 Third Street, Geraltion WA 6530.

South West Microflight Club, Bunbury

Pres: Brian Watts 0412 552363; V-Pres: Don Wilson 08 97641007; CFI: Brendan Watts 015 389417; Sec: Paul Coffey 08 9725116.

Western Soarers Hang Gliding Club

Pres: Sam Blight 08 93363738; Trs: Nav Brennan 08 93397991; Comp coordinators: Gordon Marshall 08 94519969, Nav Brennan.

The Great Sandy Desert Hang Gliding Club

Pres: Ian Sallie 091 798487 (h); Sec: Joe Langford 091 798655 (h).

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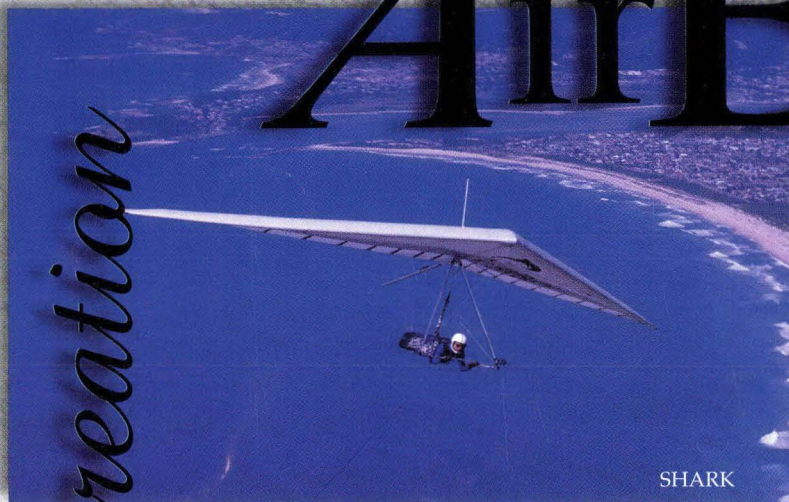
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