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In this Issue:



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EDITORIAL CONTRIBUTIONS AND ADVERTISING

Contributions for the combined magazine should be sent to the appropriate sub-editor:

AUSTRALIAN For all editorial contributions contact:

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The Gliding Federation of Australia, 130 Wirraway Road, Essendon Airport VIC 3041, ph: 03 9379 7411, fax 03 9379 5519, email: <secretary@gfa.org.au>, web site [www.gfa.org.au].

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Skysailor classifieds: To be mailed or emailed to the sub-editor or faxed to the HGFA on 02 6947 4328. Classifieds will be included in the next possible issue.

Photos and materials will be returned after publication only if a stamped, self-addressed envelope is supplied. Otherwise, photographs, whether published or not, will be filed and may be used subsequently in further publications.

CLASSIFIEDS AND ADVERTISING RATES

All GFA advertisements to be paid prior to publication. GFA classifieds are charged at \$16.50 for the first four lines, \$4.40 for every line thereafter plus GST. HGFA classified rules are set out on the HGFA Classifieds page. Display advertising rates and specifications are available on request.

ALL OTHER MATTERS

Subscriptions/circulation/changes of address:



The Gliding Federation of Australia – ACN 008 560 263 & GFA Sales:
130 Wirraway Road, Essendon Airport, VIC 3041, ph: (03) 9379 7411, fax: (03) 9379 5519, email: <AdminOfficer@gfa.org.au>, web site: [www.gfa.org.au].



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Deadline for all editorial contributions and ad bookings is the 25th of each month, five weeks prior to publication.

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CREDITS

Cover: Bernard Eckey's ASH25 parked at Ayers Rock airport alongside passenger jets. Photo: Bernard Eckey

Design: Suzy Gneist, Gneist & Moffatt

Film, Printing: Pirie Printers, Canberra ACT

Mailing: National Mailing, Canberra ACT



The Gliding Federation of Australia and the Hang Gliding Federation of Australia are members of the Fédération Aéronautique Internationale (FAI) through the Australian Sport Aviation Confederation (ASAC).



Contents

March 2001

Flying the Red Centre – Part 1	2
Two Memorable Retrieves	5

Triangular Madness 2000 – Moyes World Record Assault

6



Club Class World Gliding Championships and Grand Prix Competition – In Brief	10
--	----



Triking through South and Central Australia – Part 2

14

HGFA Board News	17
-----------------	----

The International Young Ones

18



Winglets	19
Passenger Flight	19
Gliding Text	20
In the Circuit	21
Flying the Atos	22



Beer at Boggabri

24

Pilot Profile: Alaric Giles	25
Getting to the Core of Clouds	26
F = <1	27
Stepping Out	28
Red Wine	29
Letters to the Editors	30
HGFA News	32
Funny Caption Competition	34

Paragliding Base-Jumping in India

35



When You Don't Fly	36
Budgeting Without Tears – Part 2	38
CASA Approval – New Owners and New Products for Microair	39
GFA Soaring Calendar	39
The Residual Effects of Alcohol	40
HGFA Events Calendar	41
HGFA General Manager's Report	42
Schools in Australia	44
HGFA Classifieds	46
GFA Classifieds	48
Shorthand	48
GFA Clubs	IBC



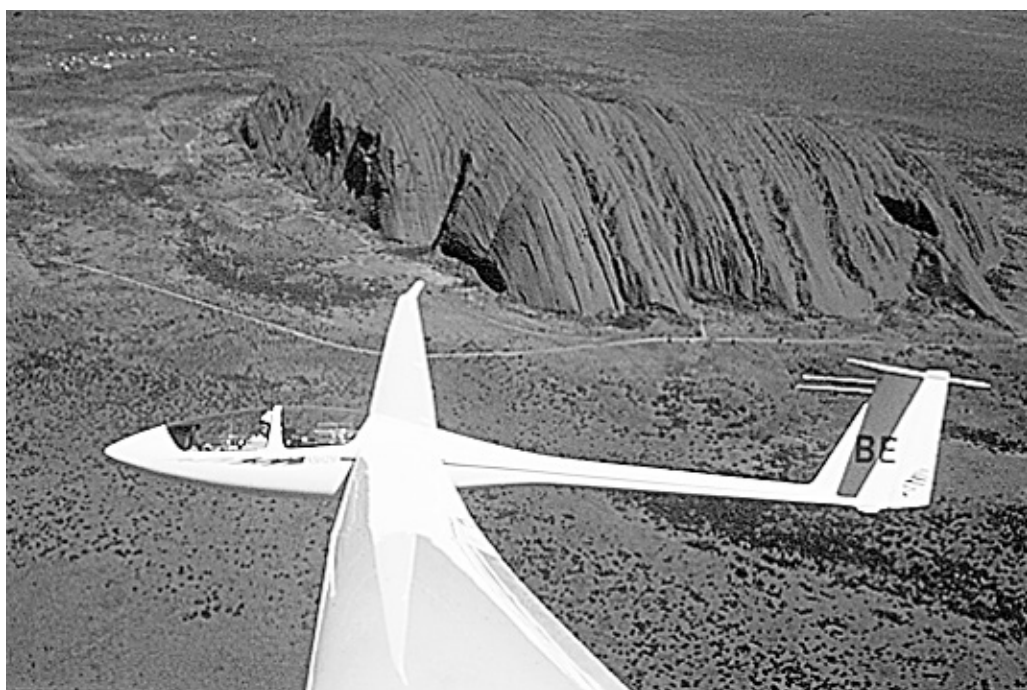
Bernard Eckey flying
his ASH25 at Uluru

March 2001

Flying the Red Centre

Part 2

BERNARD ECKEY



They say that politics is the art of living with compromises and convincing yourself (and others) that the final outcome is what you wanted in the first place. Well our trip to the Red Centre was no different. My wife's ambition has always been to climb that great Australian icon. Therefore she made her consent to the Alice Springs visit conditional on a stopover at Ayers Rock. That was something I could live with and, when I thought about it a bit more, it even occurred to me that I could fly the ASH 25 at the end of the Masters' Games from Alice Springs to Ayers Rock. My wife would have been happy to tow the empty trailer across, but with heavy thunderstorms in the area on the two previous days it appeared prudent to tow the glider to Ayers Rock and wait for suitable conditions for conducting photo flights with my wingtip camera. We said goodbye to our hosts and new friends, hooked the trailer on and left Alice Springs for "The Rock". After a drive of well over five hours we parked the trailer at the airport and informed security staff of our intentions. Prior to leaving Adelaide I phoned Robert Wilson from Ayers Rock airport and told him of my plans. You could not ask for a more helpful airport manager. He encouraged me to fly my self-launching ASH 25 into and out of an airport that has Boeings, Airbuses and the like coming in on scheduled services every day of the week. Nothing was too much trouble for Robert. He even offered to send a security vehicle out to tow me off the runway after landing. All he asked me to do was to adhere to MBZ procedures and make contact with him on arrival. Almost too good to be true, I thought. The day after our arrival at Uluru National Park we got up early to watch the

sunrise on the rock and to climb it while the temperatures were still comfortable. In the afternoon we rushed to the airport for a meeting with Robert Wilson. He is the sort of man that you only find in the outback. No hiding behind bureaucracy – no bull – no playing for time – no excuses. First he briefed us and then he contacted his troops over the radio with impressive efficiency. In no time at all my scenic flying was organised and we had an area of 30 x 50m allocated for rigging. The man in the tower was asked to slot us in whenever there was a long enough break between arriving and departing passenger jets. "Seeing that you are also a power pilot my secretary will give you a copy of the current area forecast", he said, "and I will see you when you come back tonight." We were stunned. Such efficiency and professionalism was simply breathtaking – almost worth travelling 1,500 km for. A few minutes later we parked our trailer on the light aircraft apron and prepared for rigging. The fairly strong wind had me worried, especially as there were only the two of us and there were helicopters taking off and landing only a few metres away. With the help of our rigging device we soon had the inner wing panels fitted but then we noticed an approaching rain front. It looked quite threatening, and not being prepared to take unnecessary risks we put the aircraft back in the trailer. Just as we were stowing the rigging gear away the rain hit. Perfect timing for a change. "We are not going to repeat the exercise tomorrow," my wife said. "Tomorrow is our last day and I don't want to leave without seeing the Olgas."

"Look dear," I said, "Seeing the Olgas does not take all day. Let's see what the weather does and let's make a decision in the morning." We

were woken up by heavy thunderstorms during the night but when we opened the curtains in the morning there was not a cloud in sight. Cancelling breakfast we left for the Olgas shortly after daybreak. By late morning we were back in the airport manager's office. "No worries; you know the drill," he said. "Just move your trailer onto the tarmac and the security car will meet you there." With hardly any wind bothering us we put the glider together in record time (after all, we got enough practice over the last week or so). As we were towing the big bird towards the runway we briefly stopped to take a picture of a couple of 737s in the background. Escorted by two airport security vehicles with flashing lights we kept in touch with incoming aircraft by handheld radio and managed to avoid any inconvenience. On arrival at the end of the runway we quickly put the towing gear in the boot, but took our time to test the engine. When my wife grabbed the wing tip, I gave the "thumbs up" for a take off run from the piano keys. With only myself on board the climb rate was much better than anticipated, despite a higher than usual density altitude. I tracked north towards some clouds, retracting the engine immediately after contacting some lift. The thermal proved to be very weak and broken, making the climb painfully slow. However, it was far from boring as an Ansett 737 from Perth appeared in the circuit and inquired about my position. I told them what they wanted to know and agreed to remain north of the runway until they had landed. I also advised that I would report altitude at 1,000ft intervals and promised a further call to the tower when heading south for Ayers Rock. Even before the Ansett jet touched down another call from a Qantas 737 inbound from



Cairns came through. Almost simultaneously a big aircraft with a red tail appeared in the distance approximately 1,500ft lower. It came closer at a rapid rate and eventually disappeared momentarily under the fuselage of the ASH 25. I decided to delay my departure for the rock, re-confirm position and altitude as well as my intention to remain north of the runway. By the time the second 737 taxied to the terminal I had almost reached 6,000ft. I was now well clear of Ayers Rock MBZ and able to fly to the rock and back without needing any more lift. *"Relax Bernard,"* I said to myself, *"just concentrate on getting some nice photos of that big red dot in the middle of the desert and keep your eyes open for all these helicopters full of tourists."* On the way across I took a few shots of the resort located almost exactly half-way. However, the closer I got to the rock the more aluminium was darting through the air. Mainly helicopters but also the odd light aircraft popped up and somehow congregated in that rather crowded pocket of air with the best spot for a photo. It didn't help matters that some of the helicopter pilots seemed to position themselves for a photo of the ASH 25 with Ayers Rock as a rather spectacular background. The story of the hunter becoming the hunted went through my mind and with the altimeter slowly winding down I had to abandon my plan to loop the ASH 25 and take a shot of Australia's number one tourist attraction while the glider was inverted for a second or two. Unfortunately there are only 36 shots on a roll of film and because I wanted to repeat the exercise with the camera mounted vertically I flew back to the airport. The tower asked me to expedite my landing because one of the Qantas jets was ready for an immediate departure. As the Boeing 737 got pushed back the tower called again and requested to stop opposite taxiway Bravo. I promptly extended airbrakes and flaps, confirmed to stop where requested and within a minute or so I was back on the ground. We fitted the towing gear in no time at all and were soon afterwards escorted back to the tarmac by a security vehicle. The Qantas jet made his way to the runway and took off without being at all inconvenienced. On the second photo flight we decided to take off from the opposite end of the runway as some big turboprops and a BA 146 elected to use runway 13 rather than 31. Not wanting to be the odd one out I simply followed the example of the big boys, although the wind was favouring the opposite end. This time I managed to find a stronger thermal which took me straight to 7,000ft. Well above the operating altitude of other sightseeing flights I took some time to enjoy the splendid view and detoured a little to have a closer look at the Olgas. Then it was back to "The Rock" for a few additional shots. When I finally



landed the traffic at Ayers Rock airport had eased considerably with no further "Regular Public Transport" aircraft scheduled. My second landing must have been much smoother. The driver of the security vehicle got out of the car and simply said, *"Well done – mate."* On return to the tarmac we first removed all photo equipment and took our time to put my beloved ASH 25 back in the box. Then it was back to the airport manager for a warm "thank you" from the bottom of our heart for all the help and assistance. We

PHOTOS: BERNARD ECKEY

happily paid our landing fee and promised to send him a print of the best photos with a letter of appreciation. I was tired but elated. A long-held dream had come true. I had flown the real outback, taken the media for a flight, flown around "The Rock", flown amidst big passenger jets and still managed to avoid any trouble, scratches or inconvenience on the part of my fellow aviators. What a holiday, what a trip, what an experience. ✂

Two Memorable Retrieves

DEREK RUDDOCK

This year's Southern Cross Gliding Club's annual summer camp was hosted by the Narromine-based Orana Soaring Club, and what a hugely successful event it turned out to be. Well supported by those who wanted to experience the joys of cross-country flying in open, and mainly flat terrain with unrestricted flying space, members arrived and departed as their holidays (or family) would allow; enjoyed the hospitality and support given by the Orana club; and participated in two unforgettable retrieves. These will surely be talked about, and expanded upon, for many years to come.

Retrieve Number One – Derek, Dave, Peter and Don's adventure

Where's Don? Anybody heard from Don? After putting the Jantar away and driving back to the Orana Soaring Club clubhouse one dry and hot afternoon, that's all that could be heard. It was after 8 o'clock, and we were starting to get concerned. The last I'd heard he was screaming north in a cloud street over the Harvey Ranges.

A few minutes later I got a phone call from Lyn, Don's wife. *"He's down in a paddock at the following location (thanks to GPS) about 20km out."* Out from where? The call had dropped out. A little later, Lyn called back. *"Don's in a paddock surrounded by trees and bulls (yes – not bull, but bulls) and his phone battery is failing."*

No problem, he's only 20km away, we should have him back in an short time. Peter Chapman, Dave Boulter and I hitched up the Astir trailer and trundled off in the direction of Dubbo – a well-meaning individual has interpreted Don's coordinates as being close to Trangie, to the north-west but, after double checking, we headed towards Minore silo, to the east.

According to the coordinates, Don was along a dirt road to the north of the railway track. We duly followed the road. After a small diversion into a dead-end, with Dave reading off Don's position, the road ended in a sandy creek bed with no chance of any forward progress, even with Peter's Jeep. By this time it was well after dark. We turned off the engine and shouted. Funny, although he should be only 500m to the north, according to the GPS, we could hear a faint reply which seemed to come from behind. After manhandling the trailer around and reconnecting it to the Jeep, and a couple of more shouting stops, we became convinced that he was on the other side of the railway tracks. It was at this stage I had a flash

of inspiration. The message passed on by Don's wife gave the last position as 12. Perhaps, instead of 012, which Dave had entered into the GPS (he actually had meant 120). Dave entered the new coordinates and hey presto, Don's position was now on the south side of the railway line.

We headed off in this direction until the GPS indicated we were passing him about 500m away. Seeing a light in a cottage ahead, we stopped and I knocked on the door. A very surprised and, understandably, hesitant lady confirmed that yes, she had a paddock surrounded by trees, and yes, it had bulls, however, the bulls were very ferocious, had put her son in hospital, and went around pushing trees down when they were upset (which was frequently). In addition, there was no way we were going to get into the paddock because floods had washed the road out. By now we were running out of ideas, and very concerned about Don. Our friendly paddock owner suggested calling neighbour, Les, who turned up a little later and we followed him along the road to the other side of the paddock. By now it was 11:30. Suddenly, in the paddock, we could see the flashing of a strobe. There he was – after searching for three hours, we had found him. Peter and Les walked into the paddock with torches and sticks (for the bulls), returning some time later with the news that there were two dams in the paddock with ditches draining into them. Fortunately the bulls were not near the glider. Les cut the fence and we followed him as he negotiated the best path through the paddock. When we finally go to Don he told us his story:

His GPS had run out of batteries. Yes, he had spares, but he couldn't reach them. He had confused Dubbo for Narromine on the glide back from Coonamble in the setting sun and had picked this paddock as the best one in the area – the others having wires. After landing he had spent his time fending off a particularly persistent bull, apparently called Ferdinand, by hitting him on the nose with a stick. The flash, which we had thought to be a stroboscope, was coming from his camera: he had taken pictures of the bull, hoping the flash would frighten him away. It was Don's quick thinking that had led him to attract our attention with the camera flash. Incidentally, it was after I spent a pitch-black evening on Peak Hill airstrip that I bought a stroboscope from a yachting shop

for just this sort of occasion: just attach it to the Brunswick tube, and there are no problems in locating a glider at night. After de-rigging we followed Les back as he trotted through the paddock. Apparently he must have had tin legs, as he was wearing shorts, but appeared unaffected by the waist-high thistles everywhere in the paddock. We nearly ended up in the dam on the way back down, as we couldn't find the tracks we had left on the way up. After repairing the fence, we waved a very grateful goodbye to Les, who incidentally used to glide in his youth, and arrived back at Narromine at 1:30 – five hours after we set off. Not bad for a 20km retrieve. Never again...

Retrieve Number Two – A Clayton's One

A couple of days after Don's epic retrieve, Phil Endicott went missing. By trying to raise him on the base station with the squelch turned off, we could just make out his voice, and the words 'Peak Hill... Narromine Road'. Nothing else, and we weren't able to raise him again.

As it was still light we rigged up his trailer and set off. Phil had last been seen near Peak Hill, so we thought if we drove down to Peak Hill we would find him standing at the side of the road. We drove to Peak Hill with Michael Boughen driving, Don Palmer in the front, and myself and Phil's nephew, Ryan, scanning the fields either side of the road. Nothing. We tried the Peak Hill airfield. Nothing. We tried the Orana Soaring Club clubhouse, and Keith Dixon – perhaps he had phoned in. No reply.

According to the map, there was a road from Peak Hill to Tomingley, parallelling the main road. Perhaps he had mistaken it for the main road, so off we went. Nothing.

We decided to drive back to Peak Hill along the main road, then take the Dubbo Road. Approaching Peak Hill, a car coming in the opposite direction flashed its lights and sounded its horn, so we pulled over and waited. In the passenger seat was Phil.

Dave Boulter had stayed behind when we set off, due to lack of room. Not long after we left Phil walked into the room to the amazement of Dave. He had landed in a paddock directly opposite the airfield entrance, and was actually standing on the opposite side of a channel bank frantically waving to us as we left. Not one of us had seen him!



Triangular Madness 2000



Bill Moyes and Tomas Suchanek – Congratulations for a 357 km triangle

Moyes World Record Assault

TOMAS SUCHANEK



PREFACE BY BILL MOYES

Gerolf Heinrichs returned to Europe with his new design, the Lite-speed, and he took one for Tomas to test fly. A few flights later Tomas told Gerolf that he believed the glider was capable of a 600 km flight.

Gerolf relayed Tomas' opinion to me and I called Tomas to tease him into a return to hang gliding from his new love, sailplanes. I said *"Are you going to just tell us of the glider's capability or are you going to show us?"* Tommy's answer was *"Are you going to send me a ticket to Australia or are you just going to talk about it!"*

The next day the word was out that Tommy was coming to town. The phone rang hot from pilots wanting to join the trip to our favourite record site, Wilcannia. Bob Bailey and I decided that we would need to take two Dragonflies, as the towing from the flat desert terrain would be my responsibility. The chosen time period was December to gain an advantage on the length of the day's summer heat.

The Final Crew

Tomas Suchanek

Attila Bertok

Gerolf Heinrichs and Thomas Weissenberger

Conrad Loten

Victor Becan

Radek Bares

Noma Yasuhiro

Bob Bailey

Bill Moyes

Czech Republic

Hungary

Austria

New Zealand

Slovenia

Czech Republic

Japan

USA

The only Aussie

A totally international assault.

Daily launches were from a clay pan on the Riverside property. The hard clay was a good smooth surface for the tug and the dolly, but was like standing on a mirror with the sun's heat reflecting up. Forty degrees plus every day and an extra 10°C in the clay pan. The pilots were all pleased to get out of the clay pan and the crew were pleased to see them go so we could get into airconditioned chase cars.

The guys flew up to eight hours each day. This was the most grueling week I have witnessed. Tommy never missed an opportunity to better a record and pushed the envelope to its limit.



▲▲ Riverside sheep station – mailbox landing site

▲ Bob Bailey waiting in the clay pan for the next tow victim

When the lid was nailed on the coffin of the last record, we were all pleased to pack up and drag our poor dehydrated bodies back to the cars and some moisture. Tommy was the exception. He treated the exercise as a warm up for the World Sailplane Championship to be held in South Australia in January. Twenty-four hours after completing a 300 km flight, Tommy was in a sailplane in Narromine flying a 750 km triangle. That guy is different!

Back in 1993 the Moyes gang started to explore the Australian outback with the vision of long flights, which would move the existing distance and speed hang gliding world records further forward.

When looking back I can say that we succeeded with three tandem world records flown from Hillston in December 1994, and also the speed over 150km triangular course in 1997 from Hay. The little town of Hillston was no longer suitable due to the relatively closeness of the Great Dividing Range, where we had to land on the tandem flight with Corinna after covering 360km. So Captain Bill yelled that famous saying "go west, young man", and we went. The last fragment of civilisation before running into the Simpson Desert appeared to be a little town on the Darling River called Wilcannia. It's a pretty rough place with an 80% aboriginal population and the highest number of policemen per citizen in Australia. A few wild stories kept us on our best behaviour, but I tell you, the thermals there can be even wilder and stronger than the ground stuff, and that's why we based our operation nearby at Riverside Farm.

Lots of pilots have done their personal best longest flights out of Wilcannia and Hillston, including mine; Corinna's and Bob Baier's 367km with the landing in Corryong; Attila Bertok's 405km to Victoria; Darryl Cooner's 360+km; and of course Drew Cooper's longest Australian flight, 428km from Hillston to St Arnaud (Victoria) back in '93. Because of this potential, Bill Moyes kept encouraging the old crew during the year to try once again, and that's why the wheels started spinning on



5 December 2000 in the Moyes factory at Botany, chopping down the 1,000km drive to Wilcannia.

The first little bunch included my Czech mates (Leo the driver and Radek), Kiwi pilot, Conrad (in civilian life he works as an emergency doctor, so was considered a great support for our intentions), and tow pilot and designer of the Dragonfly, Bob Bailey, whose only fear was the total absence of any McDonalds restaurants at our destination. But he survived it for the next two weeks anyway...

The Dragonfly was assembled the next day and on the morning of 8 December Wilcannia welcomed us with a south-westerly breeze and blue sky. We decided to have a little warm up flight up the Darling River, taking off with our stock Litespeeds around 1 pm in a good hot 25 km/h wind. Struggling between 5-1,500 m, I was the only one reaching the first clouds two hours later near Tilpa, while Radek and Conrad landed and started their longest sightseeing trip by car in the Australian Outback. The first cloud surprised me with a solid 5m/sec and suddenly everything looked much better from cloudbase. Not taking anything under 3m/sec, I covered 180km in the next two hours to reach Bourke, then made the 300km distance mark at 5:30pm. The gap between my position and the retrieve car became much wider, some 120km, although the boys were probably breaking all speed limits on the dirt roads and the police cars simply could not keep up with them anymore. By the way, when passing the town of Louth, I hit the strongest thermal of my life – a wide and solid 8.5m/sec on my Flytec averager all the way to cloudbase!

The afternoon and evening part of the flight was considerably slower. Recent flooding of the Darling River affected the thermal conditions and twice I found myself down to 400 m above the deck (of course in the middle of nowhere) but I managed to get lift. Finally I landed at 7:45 pm on a dirt road some 50km north-east of Brewarrina and 430km from our Riverside take-off. I passed Drew Cooper's old distance record by only 2km. Not bad for an afternoon joy flight, except that the landing

▲▲▲ Tommy and Attila on a three-record day
 ▲▲ Six happy tired pilots and crew
 ▲ Clay pan launch site
 Background: Tow launch into the early developing triangle

area was full of thirsty mosquitoes and the nearest farmhouse was beyond the horizon. I started walking towards civilisation, which tends to be the least pleasant part of nearly every distance attempt here in the outback. I had only covered some 8km, when surprisingly I could hear my crew on the radio. The rest was easy and we made it back to Wilcannia the next day to meet hungry Attila (the Hun) Bertok from Hungary, known in the flying community by his nickname, and also the rest of the pack, including our legendary driver and psychologist, Jed Gilmour, from Stanwell Park.

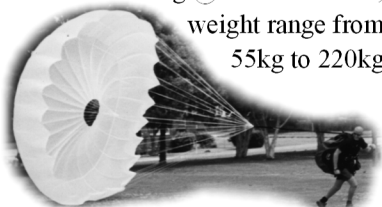
The next morning there was no wind at all, so we decided to take advantage and have a go at triangular courses. Attila, suffering from his, as Gerolf says, "kilometre bug", declared the longest triangle in the world of 249km. We left Riverside shortly after midday together with Japanese Noma and Conrad. I preferred a shorter course and tried speed over a 100km triangle. The sky stayed blue the whole day, although some lifts

GTL

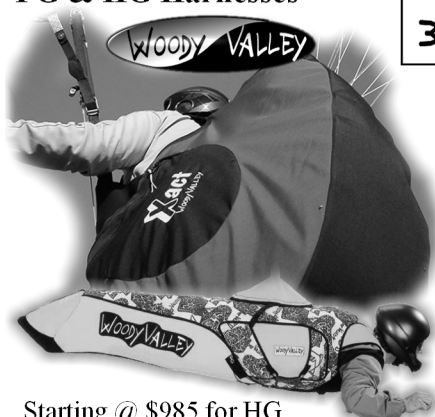
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5m/sec. I completed my triangle (start and finish point at Riverside, with turnpoints at White Cliff junction and Capon Farm) within 2 hours 39 minutes in the new World Record speed of 40.54km/h. Celebrating in the evening we were pleasantly surprised when Attila rounded his triangle and landed after seven and a half hours, establishing a new World Record of 249km for the longest triangle flown on a hang glider. He later reported strong lift over the red ground area south-east and east of Wilcannia. There are only two major roads this way, Barrier Highway going to Cobar and Cobb Highway to Ivanhoe. But the second leg, Cobb Highway, is a dirt road and there is a very poor track system in between. We all admitted Attila's courage, when crossing the road between his first and second turnpoint. We were not to know that we would be crossing this area ourselves every second day during the next week.

The days of 11 and 12 December could be considered as serious rest days – we only flew some 140km to Ivanhoe and to Tilpa, although the boys reported very strong lift on the second day, reaching some great altitudes.

Fourteen December was the start of an excellent period of weather, the sort of weather that allows you to fly more than you can handle. You start praying for rain after a couple of days. Bill Moyes pushed delicately, as only he knows how, for long flights. A very light southerly with early clouds encouraged us to say "why not" and we all went for a 300km triangle from Riverside via Mount Manara and Narraport. The heavily populated area on the second leg was really promising regarding some walk and fun in the case of outlanding, but fortunately not one of us did. The first leg was pretty rough going, light headwind with average thermals between 4-6m/sec, but the high cloudbase saved us from the unexpected! Both Attila and I had a low save after the second turnpoint, near Emmdale surf club, while Attila also scratched the ground right after the first one. But finally we both rounded the course in the new distance World Record around a triangular course.



▲ Attila's sunset pose after his 200km record flight
▲ Tommy landing after 8pm on his 357km triangle day

I was also able to claim the speed World Record over a 300km triangle, with an average speed of 45km/h. Two in one, I never can resist a good offer! The smile on Attila's face also documented his mood. He completed one of his dreams this day. He was always pushing for the long ones, whether home in Hungary or home in Australia. I still remember the first day after the Forbes Flatlands six or seven years ago, when he completed a 200km out and return while the rest of the field was recovering from the previous day's party!

Gerolf Heinrichs and his mate Thomas arrived in Wilcannia on 15 December. The boys went for speed over a 200km triangle, declaring the course from good old Riverside via Bushleys and Alma Park farmhouses. Finally Attila went around in less than five hours, establishing the new World Record with a speed of 41km/h. Conrad also managed to complete the task. They reported strong lift with a high cloudbase and a bit stronger south-east wind. I took the day easy and declared baby tasks (first 50km and second time 25km triangular courses near Riverside) with the landing in between them. That was a good day again; some 7m/sec thermals were found and I completed the first triangle, via Nettalie Farmhouse and Wilcannia Airport, in one hour five minutes – the new World Record speed of 46km/h. Later on with the little triangle I averaged 50km/h, also the World Record for speed. Three records broken in one

Ground's The Limit



dav – even better!



▲ Noma wondering if a Blue Tongue Lizard is good to eat. The lizard wondering the same thing about Noma
▲ Victor checking out aboriginal artwork

After a short discussion we declared a 357 km long triangle via Cobb Highway and Marfield Road junction, with the second turnpoint at Bulla Farmhouse. Bob took us gently to the thermals with good help from Bill Moyes, and we all headed down Cobb Highway. A light north-east breeze formed nice cloud-streets, making the first leg easy for me. Attila and Gerolf started a little bit later on the course and suffered some delay from different conditions. The second leg to Bulla Farm headed more east compared to previous days, where “no man’s land” turned into tiger plains with an absolute lack of roads and farms in some sequences of the flight. Cloudbase rose from 2,500-3,200m later and I had to test the abilities of my Litespeed to climb from low right after the second turnpoint on the edge of heavy rain. Well, nothing special, but I managed to climb and to get away. But my exposed handheld radio suffered some damage from the rain so I could not rely on help from the ground crew anymore. The second critical point came at 6:30 pm, when I went down to less than 200 m agl in the middle of the bush and far away from the road. One hour of torture, low, was finally remunerated with 1m/s gain some 28 km from goal. Final glide was a piece of cake and I crossed the finish line at 7:52 pm after an eight hour flight, averaging 45 km/h speed on the course. Unfortunately, Attila could not cross the death area due to the later time and landed some 50 km short, while Conrad cut the corner to Emmdale and made it back home flying a 300+ km triangle. Gerolf and the others went down on the second leg and they had all been picked up by Bill or Thomas and made it back home right in time for Bill’s barbecue.

Seventeen December started with a fresh north-east breeze on the ground, although the pressure gradient up higher was not too promising with strong wind. We declared a far goal in Horsham, Victoria, just to give it a go. Bob was excellent with the Dragonfly once again and placed all of us near to the Riverside start gate. The first 100 km were in blue, some stuff exceeding 4 m/sec, and then we reached the troughline and cloudbase formed at 3,400m. The bad news was that the wind stopped. Some of us kept going and I finally landed 311 km from Riverside just south-east of Mildura, close to where Attila landed four years ago. I had to land just before the gust front of the approaching southerly. Radek reached his longest distance when he landed 260 km from the start point and was saved by a local farmer from hail and thunder. Bill picked up the rest of the pack except Lukas, who decided to follow the Cobb Highway and then spent an unforgettable 24 hours waiting for retrieval at the Ivanhoe pub.

March 2001



Pilots and crew after a three-record day

I would like to thank all who helped us on this trip; especially to Bill Moyes and Bob Bailey for getting us airborne, and to Moyes Gliders for providing the best tool (I should mention that all the records were done with serial Litespeeds in standard configuration, not equipped with funky carbon uprights or base bars). Jed, Leo, Thomas and Bill were excellent as the pick up drivers and my personal thanks goes to Attila for his “pushing for distance” force.

That’s all folks. See ya’ there next time!



Summary of the records flown in Wilcannia

	Record 1	Record 2
Date:	10/12/00	14/12/00
Pilot:	Tomas Suchanek (Czech Republic)	Tomas Suchanek (Czech Republic)
Hang glider:	Moyes Litespeed 4	Moyes Litespeed 4
Record type:	Speed over 100km triangle	Speed over 300km triangle
Start point:	Riverside	Riverside
1st Turnpoint:	White Cliff & Meena Murtee Rds	Mt Manara Farmhouse
2nd Turnpoint:	Capon Farm	Narraport Farmhouse
Finish point:	Riverside	Riverside
Reached speed:	40km/h	45km/h
	Record 3	Record 4
Date:	15/12/00	15/12/00
Pilot:	Tomas Suchanek (Czech Republic)	Tomas Suchanek (Czech Republic)
Hang glider:	Moyes Litespeed 4	Moyes Litespeed 4
Record type:	Speed over 50km triangle	Speed over 25km triangle
Start point:	Riverside	Riverside
1st Turnpoint:	Nettalie Farmhouse	Barrier Hwy & Tilpa Rd Jcn
2nd Turnpoint:	Wilcannia airport	Cobb & Barrier Hwy Jcn
Finish point:	Riverside	Riverside
Reached speed:	46km/h	50km/h
Date:	15/12/00	16/12/00
Pilot:	Attila Bertok (Hungary)	Tomas Suchanek (Czech Republic)
Hang glider:	Moyes Litespeed 5	Moyes Litespeed 4
Record type:	Speed over 200km triangle	Distance over 357km triangle
Start point:	Riverside	Riverside
1st Turnpoint:	Bushleys Farmhouse	Cobb Hwy & Marfield Rd Jcn
2nd Turnpoint:	Alma Park Farmhouse	Bulla Farmhouse
Finish point:	Riverside	Riverside
Reached speed:	41km/h	45km/h
Reached distance:	357 km over a triangular course	

Please consider these performances named above as new claims for World Records, pending FAI approval.



Club Class World Gliding Championships and Grand Prix Competition – In Brief



The Australian team (left to right): Bill Johnson (crew), Simon Brown and Mark Simpson (Grand Prix pilots), Hugh, Stuart and Louise Taylor (crew), Don Palmer (crew), Beryl Hartley (team manager), Tom Gilbert, Ron Sanders and Bruce Taylor (Club Class pilots)



Briefing over for the day



Beryl keeps the team in line



The Dutch team of Rob Looisen, Ferdi Kuijpers and Max VanBree working out their flight



Erin and Tegan await the command

The inaugural Club Class World Gliding Championships and Grand Prix competition held at Gawler, South Australia, from 8 to 26 January this year attracted a total of 50 pilots from 21 countries. Forty-four pilots competed in the championships while six took part in the Grand Prix competition.

Winner of the championship was Peter Masson from Great Britain flying a DG101. Second place went to fellow countryman Richard Hood in a Standard Cirrus, while Thomas Suchanek from the Czech Republic, also in a Standard Cirrus, took out third place.

The Australian entrants, Tom Gilbert, Bruce Taylor and Ron Sanders, took out 11th, 33rd and 36th placings respectively.

Winner of the Grand Prix competition was Canadian Jim Carpenter in a Ventus B, followed by Germans Benno Beesten in an ASW27 and Swantje Geyer also in a Ventus B. Australia was represented by David Wilson, Mark Simpson and Simon Brown.

The Championships

Following six days of practice the championships commenced on Sunday, 14 January. After days of searing heat where the temperature soared to a maximum of 46.7°C, day one was declared a no contest day when the temperature failed by three degrees to reach the trigger of 43°C.

Monday, 15 January: With the forecast temperature of around 30°C and weak thermals of two knots to a maximum of 4,000 ft the day was cancelled on the grid after the grand prix pilots struggled for some time around 1,800 ft.

Tuesday, 16 January: Another no contest day with the temperature reaching only 29°C and weak thermals of one knot to 2,500 ft.

Wednesday, 17 January: A forecast temperature of 35°C with thermals around four knots to 4,600 ft and four to five knots to 5,000 ft resulted in the first contest day.

Tasks:

Club Class – 4 hours, 250 km minimum
Grand Prix – 317 km Caltowie-Burra-Gawler

Results – Club Class

- 1 K Striedieck (USA) 84.67 km/h
- 2 P Masson (GBR) 84.48 km/h
- 3 H Nixon (USA) 84.35 km/h

Grand Prix

- J Carpenter (CAN) 77.12 km/h
- the only Grand Prix pilot to get home.

Eighteen gliders in Club Class outlanded and there were five remote finishes.



The British team (left to right): Winner Peter Masson, Afandi Darlington, second-placegetter Richard Hood and team manager Bob Bickers



The German team



Hurry up and wait



The pilots



David Wilson represented Australia in the Grand Prix



I think I would like my parachute to be bigger than theirs



The publicity team – it must be good to enjoy your work



Canadian Jim Carpenter, winner of the Grand Prix competition

Thursday, 18 January: The forecast was for a temperature of 35°C, with difficult, narrow, weak thermals to 4,300 ft.

Tasks:

Club Class – two hours, 100 km minimum

Grand Prix – 147 km Saddleworth-Robertstown-Gawler

There were seven outlandings and four remote finishes.

Results – Club Class

- | | |
|-------------------|------------|
| 1 R Looisen (HOL) | 160.5 km/h |
| 2 R Hood (GBR) | 151.5 km/h |
| 2 P Masson (GBR) | 146.5 km/h |

Grand Prix

- 1 Swantje Geyer (GER)
- 2 B Beesten (GER)
- 3 S Brown (AUS)

Friday, 19 January: A forecast temperature of 39°C, with strong thermals of six to seven knots to around 7,000 ft.

Tasks:

Club Class – Alternate 'Assigned Area Tasks', five hours minimum. Turnpoints: Blyth (20 km), Hallett (60 km), Waikerie (60 km)

Grand Prix – 318 km Hoyleton-Terowie-Gawler

Results – Club Class

- | | |
|-------------------|--------------------------------|
| 1 B Taylor (AUS) | 88.08 km/h (handicap adjusted) |
| 2 J Cesnek (SVK) | 88.12 km/h |
| 3 T Looison (HOL) | 84.55 km/h |

Grand Prix

- | | |
|---------------------|------------|
| 1 B Beesten (GER) | 88.72 km/h |
| 2 S Geyer (GER) | 88.12 km/h |
| 3 J Carpenter (CAN) | 87.60 km/h |

There were three outlandings in Club Class and one in the Grand Prix.

Saturday, 20 January: A temperature forecast of 37°C with isolated strong thermals to around 5,700 ft ahead of a north-west change and a wind forecast of 15-20 kt.

Tasks:

Club Class – 'Assigned Area Tasks', three-and-a-half hours minimum. Turnpoints: Burra (50 km), Waikerie (50 km).

Grand Prix – 192 km Robertstown-The Gums-Gawler.

Results – Club Class

- | | |
|--------------------|------------|
| 1 P Masson (GBR) | 106.2 km/h |
| 2 F Kuijpers (HOL) | 108.3 km/h |
| 3 H Nixon (USA) | 102.8 km/h |

Grand Prix

- | | |
|---------------------|------------|
| 1 M Simpson (AUS) | 109.8 km/h |
| 2 D Wilson (AUS) | 103.5 km/h |
| 3 J Carpenter (CAN) | 96.7 km/h |

There were two remote finishes.

Sunday, 21 January: A forecast temperature of 39°C with thermals three to four knots to around 4,000 ft by 1600 hours.

Tasks:

Club Class – 'Assigned Area Tasks' two and-a-half hours minimum. Turnpoints: Blyth (30 km), Eudunda (30 km)

Grand Prix – 162 km Hoyleton-Eudunda-Gawler.

Results – Club Class

- | | |
|--------------------|------------|
| 1 F Kuijpers (HOL) | 88.32 km/h |
| 2 M Ichikawa (JPN) | 87.46 km/h |
| 3 M VanBree | 87.44 km/h |

Grand Prix

- | | |
|---------------------|------------|
| 1 J Carpenter (CAN) | 64.73 km/h |
| 2 S Geyer (GER) | 61.54 km/h |
| 3 D Wilson (AUS) | 59.78 km/h |

Eleven Club Class pilots and three Grand Prix pilots outlanded.

Monday, 22 January: A forecast temperature of 39°C with moderate thermals of two to three knots to around 3,700 ft.

Tasks:

Club Class – Alternate 'Pilot Speed Tasks' of four hours and 270 km minimum.

Grand Prix – 374 km Hallett-Waikerie-Gawler.



Tom Gilbert, one of the Australian representatives in the Club Class Championships

Results – Club Class

- | | |
|----------------------|------------|
| 1 A Darlington (GBR) | 105.5 km/h |
| 2 R Hood (GBR) | 105.3 km/h |
| 3 P Masson (GBR) | 104.6 km/h |

Grand Prix

- | | |
|---------------------|-----------|
| 1 J Carpenter (CAN) | 83.4 km/h |
| 2 B Beesten (GER) | 80.7 km/h |
| 3 D Wilson (AUS) | 75.0 km/h |

There were 15 outlandings and eight remote finishes in Club Class and five outlandings in the Grand Prix.

Tuesday, 23 January: A forecast temperature of 44°C with five knot lift to 5,300 ft, thermal wave to 14,000 ft and sink in virga of 10-14 kt.

Tasks:

Club Class – 'Pilot Speed Tasks' of three-and-a-half and 200 km minimum.

Grand Prix – 217 km Robertstown-Waikerie-Gawler.



Entertainment director Keith Willis with his emergency transport



Preparing for flight



Still waiting



Safety in the hands of Peter Thomann and Danny Martyn



Some things are still done the old way

Results – Club Class

- | | |
|---------------------|-----------|
| 1 R Hood (GBR) | 117.0km/h |
| 2 B Pieraerts (BEL) | 112.9km/h |
| 3 T Suchanek (CZE) | 112.5km/h |

Grand Prix

- | | |
|-------------------|-----------|
| 1 B Beesten (GER) | 112.1km/h |
| 2 D Wilson (AUS) | 112.1km/h |
| 3 S Geyer (GER) | 99.15km/h |

One pilot scored zero when he returned to the field mid-afternoon with a double logger failure and 14 pilots received no scores for the day due to an infringement of restricted air-space. There was one outlanding and one remote finish in Club Class.

Wednesday, 24 January: With a forecast of 41-42°C and the possibility of thunderstorms the tasks were cancelled at 1430 hours.

Thursday, 25 January: A no contest day was declared due to a forecast of severe thunderstorms in the afternoon.

Friday, 26 January: The last contest day.

Tasks:

Club Class – 'Assigned Area Tasks' of two-and-a-half hours and a distance of 239 km minimum. Turnpoints: Nantawarra (25 km) Robertstown (45 km) Wasleys (15 km).

Grand Prix – 164 km Nantawarra-Tarlee-Gawler.

Results – Club Class

- | | |
|--------------------|-----------|
| 1 B Taylor (AUS) | 69.38km/h |
| 2 T Suchanek (CZE) | 67.57km/h |
| 3 R Looisen (HOL) | 65.78km/h |

Grand Prix

- | | |
|-------------------|-----------|
| 1 Carpenter (CAN) | |
| 2 S Geyer (GER) | |
| 3 D Wilson (AUS) | 144.4km/h |



Tomas Suchanek from the Czech Republic was placed third in the Club Class Championships



It couldn't have happened without the tuggies: Brian, Brian, Arnie, Nick, Brian, Jon, Vince and Stowe

There were 10 outlandings and six remote finishes.

Final results – Club Class

- | | | |
|---------------------|-----------------|---------|
| 1 Peter Masson | DG101 | 6,972.6 |
| 2 Richard Hood | Standard Cirrus | 6,879.6 |
| 3 Tomas Suchanek | Standard Cirrus | 6,789.7 |
| 4 Afandi Darlington | LS1f | 6,531.4 |
| 5 Rob Looisen | LS4 | 6,529.9 |
| 6 Ferdi Kuipers | LS4 | 6,509.2 |
| 7 Hank Nixon | LS1f | 6,240.4 |
| 8 Frank Hahn | LS1d | 6,185.8 |
| 9 Mak Ichikawa | LS4a | 6,171.4 |
| 10 Dirk Reich | Hornet | 6,116.7 |

Final results – Grand Prix

- | | | |
|-----------------|----------|----|
| 1 Jim Carpenter | Ventus B | 39 |
| 2 Benno Beesten | ASW27 | 40 |
| 3 Swantje Geyer | Ventus B | 40 |
| 4 David Wilson | ASW24 | 35 |
| 5 Mark Simpson | Discus B | 20 |
| 6 Simon Brown | Discus B | 7 |

Sub-editor's note: The above information was taken from daily notes compiled and presented by Rob Moore and Beverley Matthews. A comprehensive report of the championships will appear in next month's edition of *Australian Gliding/Skysailor*.

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Triking through South and Central Australia

Part 2 – Heading Back South

LISA & STEVE RUFFELS (*Eagle School of Microlighting*)



On the shore of Lake Eyre

The painted shore line of Lake Eyre



▲ Opal mine diggings around Coober Pedy
▼ From 4,000ft, looking east towards Lake Eyre, 'the inland sea'



Coober Pedy – The Breakaways

After driving all day through the featureless South Australian landscape between the Northern Territory border and Coober Pedy, we finally arrived late in the afternoon. Conditions were perfect so we booked into the local underground camping place, set up our tent, drove to the airport, set up the trike and blasted off into the calm evening air. We did a circuit around town first to check out all the dugouts (underground homes) from the air, then headed for the Breakaways, 32km north of Coober Pedy.

Coober Pedy was originally known as Stuart Range Opal field, named after the first European explorer to the area in 1858. In 1915, the first opal was discovered and in 1920 it was renamed Coober Pedy, derived from the aboriginal words “kupa piti meaning, “white man in a hole.” It is believed that the soldiers who returned from the trenches of France during the First World War introduced the idea of living underground in homes commonly known as “dugouts.” The miners quickly discovered the advantages of living underground to escape the heat of the summer and the cool desert nights. Here, temperatures in summer can soar to 50°C during the day and plummet to -2°C at night in winter. No matter how harsh the climate, the underground rooms maintain a comfortable, even temperature ranging from 23-25°C day and night throughout the year. It is estimated that about 50% of the population live underground now. Most dugout homes are excavated into hillsides and the soil in Coober Pedy is stable enough to allow huge ceiling spans in rooms. In fact, it is not unusual for a mining family to buy an adjoining property and tunnel across to link two dwellings, or even three or four. Some mansion style homes spread up to 450m² underground.

From the air these dugout dwellings look like a desert village scene from Star Wars. Just like the landscape, the population of Coober Pedy is also unique; with a total of 3,500 people there is said to be 45 different nationalities. In fact, it has been deemed as one of the most ethnically diverse communities in Australia. We even drove past an underground Serbian church.

In a desert-like environment like this you wouldn't think that there would be much to see from the air. However, it is quite amazing. Only once you're airborne can you really appreciate the landscape. Surrounding the township are thousands of holes and white powdery mounds (small test digs) extending for nearly 40km around the town. It looks like a huge ant colony has taken up residence.

Stretching beyond these is a treeless moonscape desert, the flattest most featureless terrain we've ever flown over (besides Bourke maybe, but even that had trees). To the east of the town is the Dog Fence, a two-metre high wire barrier stretching for over 5,300km across three states, to protect the sheep country in the south from our native dog, the dingo.

The only other land feature to be seen in the area is a small group of very colourful sandstone hills, only about 100-200ft high, known as the Breakaways. Their name comes from the fact that this group of hills have broken away from the Stuart Range and the hills of the “Painted Desert” further north. This unique set of hills have seen many movie stars come and go, and are famous for being the backdrop to movies such as, Mad Max Beyond Thunderdome, Ground Zero and the recently released Pitch Black. We were able to fly quite low around them, as there were plenty of landing areas in the desert, and due to their small scale you needed to in order to appreciate them fully. The colours are quite dramatic, ranging from

brilliant whites and yellows through to burnt oranges and toffee browns.

As the sun sank toward the horizon we headed back to the airport. It was a perfect time to witness these white powdery mounds of sand and siltstone transform into heaps of golden dust with the brilliant colours of the evening sun. We got back right on sunset, the best sunset we'd seen. We packed up the trike in the dark and went back to our dugout camp ground for the night. Tomorrow we'd head for William Creek and Lake Eyre.

Lake Eyre

We drove 166km of unsealed road to William Creek, South Australia's smallest village with a population of 12 and a bizarre bush pub. This place defies words and is worth a visit at least once in your life. People from all over the world and Aussies have left a little piece of themselves (token gifts) behind in the pub for new passers-by to appreciate and add to, which gives the place its character. There is so much of this stuff draped from the ceiling, walls and floor that it appears these tokens are not just decorative but serve some structural role in holding up the place. There is not one square millimetre of space left on the surrounding walls of the pub to fill, which I suppose is the reason why all sorts of memorabilia dangle from the rafters. Included amongst this are many interesting varieties of men's and women's underwear, from your classic “Y”-front jocks to an interesting looking leopard-skin “G”-string. If only they could talk I'm sure each of these items would have a great story to tell. Between the pub and the airstrip there's not much else at William Creek.

William Creek is a place we won't forget in a hurry. The camping ground is located literally right next to the airstrip. You pay your \$5 at the pub when you arrive, pick a piece of dirt anywhere and set up camp. Bonus, we thought; what we'd do is, camp between the helipad and the runway, and set up the trike next to our tent so we could fly at daybreak out to Lake Eyre. That way we'd be well away from loud generators and possible snorers and would get a good night's sleep. The generator from the pub was very loud but with the aid of earplugs we managed to fall asleep by 12am. Great, we'd get a straight seven hours sleep before sunrise and be in the air by 8am with the other local pilots. But unfortunately this was not to be the case!

At 1am a turbo prop aircraft screamed passed our tent, turned back and taxied up the middle of the runway a few metres from our heads, finally coming to rest just beyond the helipad at the back door of the pub. It was the Royal Flying Doctor air ambulance. Apparently, someone had suffered a heart attack





From 7,000ft, looking east at Wilpena Pound

and needed to be taken to hospital. Since we'd been woken from a deep sleep we thought we might as well get up and watch the action. From where we stood it looked like the guy was going to be okay, so as quickly as they'd arrived, they departed. We eventually got back to sleep and in a few hours it was morning.

The night before we'd chatted with some of the local pilots who filled us in on the heights and routes they'd be flying (six Cessna's in all) and even provided us with a secondhand WAC with their regularly flown scenic routes marked on. The rest was in the ERSA. The airstrip faced 150-330, the runway surface was red sand silt and we were only 300ft asl. Since Lake Eyre only fills once every 20 years or so and dries up fairly quickly, at the moment it is a very popular place to visit. The flying businesses operating out of William Creek are flat chat and booked months in advance.

We took off at 8:15 am and headed east for Lake Eyre ("the inland sea", 1,228,000 ha). Our planned route was to track straight for Dalhenty Island, as this was where most of the bird life was supposed to be. This out and return was about 100km. Although we carried a map and compass, we were glad to have our GPS in terrain like this. We made sure to double check the co-ordinates we'd punched in because there aren't a lot of features to guide you across these vast salt plains (although there was one 4WD track that you could follow and land on if needed, but it was not always easily visible). We'd asked the other pilots about landing areas on the way out and they'd advised us to land on dry saltpans and to use cattle tracks to judge the depth of the mud elsewhere.

As we approached the lake it was impossible to see to the other end of it even from the air. It truly is an inland sea. It glistened sky blue, with not even so much as a ripple to disturb its mirror finish. It's not a very deep lake, with its deepest part only four meters; most of the lake is shallow enough to wade across it from one side to the other. You can clearly see the rippled sandy bottom. Where the edges of the lake met the desert the shoreline looked as though it had been painted with a very fine tipped brush – delicate whirls and curves of different coloured sands following alternate water courses. It was such a pristine landmark.

Except for a lone seagull we didn't spot any bird life on Dalhenty Island. We supposed that, as the lake begins to dry up, salt concentrations become so high that the water cannot sustain much life, including fish. On the way out to Dalhenty Island we flew quite high, as we didn't think that landing on the island was an option and even though the shores of Lake Eyre looked very solid with their salty surface, in reality they are a metre deep thick black mud. We really wanted to do some low flying and land on the shores of Lake Eyre, so we spotted a 4WD track and went down to check it out. We did several very low passes over it and it looked like firmly packed salt, so we landed. We took a photo, went to the toilet, changed pilots, and flew back and with a 10kt easterly blowing – it didn't take long.

Flying over Lake Eyre filled with water was a rare privilege. Being able to do it in our trike and to have been able to land there was one of the highlights of our trip. This was an experience that we will never forget.

Our flight took 1.5 hours. After a coffee and some breakfast we packed up our tent and trike and headed off, bound for the Wilpena Pound Flinders Ranges.

The Flinders Ranges – Wilpena Pound

We arrived late in the afternoon, just on sunset to witness the west side of Wilpena Pound lit up in a magnificent red colour. We had both been to Wilpena before many years previously and climbed to the top of St Mary's peak (the highest point in the Pound). Now we would fly over it, weather permitting. This was to be the last flight of our three week holiday, and now that we were back down south the prospect of changeable weather was looming.

The next day looked promising with a light breeze. We decided to fly late in the afternoon and use the day to rest and look around. Unfortunately, this didn't quite turn out to be

a rest day as the night before we had arrived late and had inadvertently set up in an empty bus camping zone. This would have been okay, however, that day a group of bicycle tourists arrived and set up about 20 tents all around us. Being light sleepers we envisaged a sleepless night of listening to the buzz of exhausted snoring! So we packed up and moved to our own private tent site.

Late afternoon came and we were in luck; the conditions were still favourable with a light wind. The Flinders Ranges are similar to the MacDonnell Ranges in that any sort of wind greater than 10kt would produce rough flying conditions. Plus, in the warmer parts of the day both ranges are renowned for their strong thermic conditions – all in all not friendly to small aircraft.

We quickly set-up, fuelled and pre-flighted our wing and base. Like Ayers Rock and the Olgas, there are a lot of scenic joy flights operating, so we were again (as always) conscious of keeping a good lookout plus listening to our radio and giving frequent position fixes of where we were.

One of the local pilots had pre-warned us of kangaroos crossing over the strip at dusk, a nightly event! As we took to the air we saw dozens of 'roos surrounding the strip.

In an earlier conversation around our campfire we'd been reflecting on our recent flying adventures and both expected that the Flinders would be a step down from the beauty we'd witnessed flying over the West MacDonnell Ranges. However, we soon changed our minds. After we took to the air, the grandeur of the



Flinders Ranges quickly became apparent. Wilpena Pound was easily as scenic as anything we had seen so far. It is a huge bowl-shaped cauldron surrounded by jagged rocky cliffs 4,000-5,000 ft high. To the north stretched 'the Backbone of the Flinders', which closely resembled the parallel ranges of the West MacDonnell's. To the south was the Elder Range. As we flew around the south-west side of Wilpena at 5,000 ft the light north-easterly still produced turbulence. The local pilots say that when the wind picks up the turbulence becomes horrendous; it's easy to see why.

It took us 30 minutes to fly right around – it's so big! By this time it was getting too late to head off on a longer XC so we went halfway around again, heading further out towards Lake Torrens, a huge dry lake to the west of Wilpena. We climbed up to 7,500 ft to get better perspective photos of the late afternoon sun striking the western face.

On the way back near St. Mary's peak we noticed three wedge-tailed eagles soaring at 5,000 ft in the light, smooth, up-slope breeze. They were just there for the sheer enjoyment of flying – just like us really, so we came in close and joined them. They weren't scared by us and continued in the mellow evening air. As a hang glider pilot of 24 years, it would have been nice to be doing this in just a hang glider, but because of the remoteness of this site our aircraft was the only practical way of achieving this.

We would have liked to spend more time with these eagles but our fuel was getting low so we headed for the airstrip down below. The sun was just on the horizon as we touched down, skimming over the heads of kangaroos just off the edge of the strip.

We felt ecstatic after landing, knowing we'd achieved our final goal. We'd flown six different areas in less than three weeks, and knew how lucky we were to have done this in such a limited time. Remarkably, any strong winds that did blow mainly occurred at the times when we were travelling or had plenty to occupy our time with site seeing.

This brings us to a close on our triking adventures throughout South and Central Australia and leaves us at a point where we've already made plans for next year: to trike and drive around the Kimberley and Western Australia. If it weren't for the portability of the microflight we wouldn't have had the opportunity to experience what we did. It truly is a privileged lifestyle to own and fly a trike, a lifestyle accessible to most. You don't realise how much you're sometimes missing until you get into the air. So, taking a trike with us on holidays is an essential part of our equipment, allowing us to take in the full picture of our beautiful country.

BRIAN WEBB, HGFA Board President

Board Appointees

We are pleased to announce that Keith Lush (WA) and Rob Woodward (SA) have both agreed to join the Board. Rob and Keith are previous long-term Board members, they bring with them substantial experience and familiarity with HGFA issues. They also help to balance an absence of representation from WA and SA.

We are confident they will help the current Board to continue to serve the membership.

Active Australia

A warm welcome to Belinda Head from the ACT. Belinda won the tender for the National Development Officer contract. We look forward to hearing much from Belinda about this new role very soon.

Sites

As population areas inevitably expand, previously remote sites are endangered by development and liability issues threaten previously secure sites. Long term site retention plays a pivotal part in the ability for our sport to survive. This has been clearly identified as an opportunity for the HGFA to work further with states and clubs in order to identify and support site retention.

The existing HGFA site policy has served to assist in the development of long-term tenured sites such as Mt Tambourine (SE QLD) and Mystic (Bright, VIC). Both of these busy sites now have secure launch and bottom landing areas. Each have an established club structure which guide the sites managerially and financially. Each is operating profitably and repaying the seed money invested by the associated states and HGFA.

These and other secure sites provide a long-term base for our flying. They represent permanent homes where we can progressively build and expand facilities for our pilots, their families and friends. They provide positive visibility to the public and media. They often provide an environment for schooling and consequent participation and membership growth.

The Board is revisiting the site development policy and intends to publish a set of criteria to clarify and encourage applications for HGFA support for long term tenured site development. A proposal has been put for the HGFA to provide an annual grant or loan for suitable major site developments. This fund could be competitively applied for each year. An ideal outcome would be a growing number of tenured sites with the associated benefits for members and membership. More detail to follow later.



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The International Young Ones



Young international pilots with their instructors at the team challenge held in Narromine last October
Photo: Courtesy Lisa Turner

LISA TURNER

The average glider pilot in Australia is male and somewhere in the 40 to 50-year-old age bracket. It is a sport that is growing older constantly as young people find other adventure activities in which to participate. As a 24-year-old female pilot who regularly flies in competitions I often find myself feeling like the black sheep that does not quite fit in.

It is hard to find young pilots of similar age and flying experience within Australia to fly with and mix with. I was invited by Shinzo and Christiane Takizawa of Soar Narromine to come and take part in an international junior teams challenge in October last year.

It follows that I was thrilled with the prospect of spending some time with other pilots of my age and experience. Soar Narromine has for the past few years been holding and sponsoring this teams challenge on an invitation only basis for some of the best young pilots from around the world. Pilots invited include the top junior pilot at the Hockenheim competition and the Japanese student champion. Each year there are usually five or so junior pilots who come to Australia to fly in our famous conditions, with the best aircraft and some of the top pilots from around the world as coaches.

The event is similar to other Australian team challenges, but at a level designed to prepare juniors for major competitions. It is also individually tailored to each student where one or two students fly with a coach each day around a task, working on whatever specific area the student wishes to improve.

The coaching does not stop in the air. Daily lectures and discussions on competition techniques, weather, mental and physical preparation are held. Last year I was the first Australian to be invited to attend the event, with Soar Narromine sponsoring my launching, accommodation and coaching. All I had to do was get myself and my glider to Narromine. International pilots receive similar sponsorship of a glider and launching, etc. Students have to provide the airfare to Australia, usually with the assistance of their club and National gliding association.

Other juniors invited included Michael Streit of Germany, who was the highest ranked junior pilot at Hockenheim and Japanese nationals Ruri Wakamatsu, who was the Japanese student champion and Yoshihiko Aida, who was the second-placed Japanese student champion.

Coaches included Shinzo Takizawa, Tom Claffey, Yuji Morinaka, of Japan and for one day each Christiane Takizawa and Kerry Claffey. The weather was not on our side for the week and only four tasking days were possible. These days averaged 200km each, in

some very ordinary weather for Narromine in October, with average conditions of three knots to 4,000ft agl.

Tasking options were limited due to the large volumes of water lying in paddocks around the area. Therefore, it felt very rewarding to complete these kinds of distances at speed in such conditions. It was a great experience to fly and socialise with other junior pilots from around the world in a friendly and relaxed environment.

The evening meal was always a cultural experience as everyone took turns cooking for the group at night. There were discussions from all about particular flying or competition experiences which allowed others to learn from and relate to. I found it particularly beneficial just to talk to the other pilots about flying in other parts of the world and discuss flying generally from a junior perspective.

I would like to thank Shinzo and Christiane Takizawa for their efforts and hospitality. It is a rare thing today when individuals run an event that has no gain for themselves and is only to benefit a cause in which they believe. It would be good to see others involved in this event, through coaching, infrastructure or sponsorship so that it can become an internationally known event with the benefit contributing towards junior soaring. This is an experience that many people in Australia never get to have. I feel that it is very important to continue this type of event where junior pilots can mix with each other and learn without the stress of competition. I also hope that an Australian junior can participate each year so that other young pilots can receive international exposure, something which is decidedly lacking here.



Winglets

MIKE VALENTINE, Senior Technical Officer – Airworthiness

Winglets have been popular on a wide range of glider types for a number of years now. Some gliders come out of the factory fitted with them, others have them retrofitted from a factory kit. There are also those in neither category, having winglets which are locally-designed and built.

Some of the gliders retro-fitted with winglets were first designed long before winglets were thought of as a performance-enhancing device. Pilots are naturally enthusiastic about winglets.

Most pilots find that the glider flies more slowly in thermals, handles better when circling and in many cases any tendency to wing-drop on an aerotow take-off is cured. All positive stuff. All the symptoms suggest that the winglets are doing their intended job of improving the lift produced by the outboard part of the wing, hence the reduction in stall speed and therefore of circling speed. The better handling and behaviour are a nice bonus.

However, there is no such thing as a free lunch and this is the case with winglets. Increasing the amount of lift at the outboard part of the wing must increase wing bending moment, if the winglets are doing their job. In addition the winglets themselves exert a bending moment on the wing.

In February 1999 a DG 400 motor-glider broke up at high altitude in Japan, killing the pilot. It is not known why the aircraft broke up, but the Australian Civil Aviation Safety

Authority (CASA) was contacted by the Japanese because the aircraft, which was operating in its 17 metre version, had been fitted with winglets designed and constructed in Australia and shipped to Japan to be fitted. CASA contacted the GFA, to see whether we knew anything about it or could offer any insights. We didn't and we couldn't.

Whether the winglets contributed to the accident or not, the fact that they were fitted came to the attention of the Japanese authorities and they naturally wanted as much information as they could get. The matter is as yet unresolved.

One of the things that raised the curiosity of the Japanese authorities was an item on the DG web page, which amounted to a warning from the DG 400 designer himself, Wilhelm Dirks, to the effect that winglets should not be fitted to certain of the DG designs. The 17M version of the DG 400 is one of these, as is the 22 metre version of the DG 500. Rather than try to paraphrase what was said in the warning, it is reproduced here in full, with the permission of the DG factory. Close attention to Mr Dirks' warning is strongly recommended.

If the glider comes from the factory with winglets, or is retrofitted with winglets in accordance with a factory-approved Technical Bulletin, there will be no compromise to the aircraft's margins of safety, although in order to achieve this outcome there may be changes to the glider's operating limitations and this may lead in turn to amendments to the Flight and/or Maintenance Manuals. Winglets fitted under any other terms must have the same standards applied to them as those from the factory. Nothing short of a structural justification, fully documented in an Engineering Order by an engineer authorised under Civil Aviation Regulations 35 and 36, will suffice.

Keep in mind that unapproved modifications may affect the insurance status of a glider.

It doesn't take much imagination to realise that close attention to the engineering requirements for winglets applies in exactly the same way to any other modification carried out on a glider. This is a formal process and would benefit from an increased level of awareness on the part of all GFA members.

Future articles in AG/SS will form part of the process of lifting this level of awareness.

Comment from John Ashford, Chairman of the GFA Technical Committee:

In my annual report to the GFA Council I drew attention to what Mike has written here for all GFA members to read: "Owners with winglets fitted to their gliders should talk with whoever fitted them about what technical justification is available for their particular installation." Thanks are due to DG Flugzeugbau for permission to reproduce their technical discussion from their excellent website. ✂

Passenger Flight

EMILIS PRELGAUSKAS

I far prefer to deliver by air where possible. When I watch the evening news, and the road statistics come up, I feel justified that it's safer up there.

In contrast, a sailplane on a trailer is a large target for others on the road. There are innumerable logistical issues that come with the going to the destination by sailplane – beyond weather to cooperate. It is often a day outside the club operating routine. So someone has to provide the launch, and, at the destination end, someone has to provide transport home. This year Baylee Roberts offered to help. We packed Anke, our visiting overseas student, into the back seat, took a launch, and proceeded to be pessimistic because of the weather.

After an hour of hanging around under the inversion, we burned our bridges and set sail. Pallamanna, the home of the Murray Bridge Gliding Club, our first check point. This is only 15km away, and yet we were almost on the ground. Progress at this point was so slow that on the road Baylee caught us, and had to stop at intervals waiting for us to catch up. Next check point, Sanderston, a crop sprayer's field where one of my earlier clubs operated. This was 40km out. Amazed at still being in the air. Baylee had left our track and cut across the Mount Lofty Ranges. Now we are out there terribly alone.

The inversion slowly rises, and we track toward Stonefield, the home of the Barossa Valley Gliding Club, 90km out.

At this point it is a tentative meander into the hilly ground, now taking every climb right up into the inversion. There is 1,500ft less operating height in here.

There is time to talk about block faulting as the ranges run parallel in lines north-south across our track.

At Saddleworth radio connection with Baylee is re-established. Both ends of the line are happier now.

At the last hill line, we clamber up into the inversion again; unsure whether the sea-breeze (sorry – marine replacement air) is in the plains ahead. Final glide maybe.

Some buoyant air on the 35km glide brings us to Balaklava, where we hang around till our ride home arrives.

Now the issue is – how does Anke describe in her mail home to the relatives her day out, in a way in which they will understand the thrill and anguish this sort of trip generates. ✂



Gliding Text

EMILIS PRELGAUSKAS

In private correspondence I frequently receive excerpts containing similar repetitive sentiments. This article arises from such an FAQ: *"I enjoy [or alternately] loath your writings to AG/SS, where do you find the time."*

Reviewing the content generally published in the magazine over the years elicits these generalisations:

- *Writing for gliding can fulfil a wide range of purposes.*
- *The obvious ones are to record.*
- *This can be to record*
 - (a) *the personal ('yee-haa'),*
 - (b) *the historical, or to*
 - (c) *summarise.*
- *Or the writing can be exploratory.*

The most common writing is to express personal experience or realisations. These range from the 1,000km flight through to 'light-bulb' moments. Recording historical items range from the anecdotes recorded for posterity through to formal statements. In the former category are *Sailplane & Gliding's* "Platypus" column in each issue which has appeared for a number of decades, recording the coming and goings in the British gliding community. And similarly, in most gliding magazines, the summer season is dominated by concentrated 'day one, day two' contest reports which record the individual successes for posterity.

In contrast, in the exploratory category is the writing which, in the process of putting it on paper, helps consolidate an individual or the collective thinking about an issue. Official reports from committee deliberations and decisions fulfil this purpose. Issues can be encapsulated, a current set defined, ready for future further analysis and re-exploration. To some people the official pronouncements are legitimate. In contrast, individuals exploring thoughts such as through my ravings, picking over personal and bar-talk thoughts are considered just irritation. The problem in this writing category is that while the author recognises what they are on about, readers often pass on because to them the topic is unrecognisable, or find the thoughts put have no relevance to their immediate experience of gliding. My writing is thus often criticised as being of poor quality, or as being gobbledygook, by being in the exploratory category. I have to leave these to editing by others to decide whether the mass of this stuff is publishable, or can be, perhaps by rework, licked into a recognisable shape. On the other hand, there is one advantage of having written a lot of exploratory stuff over many years – other gliding people now are talking these days, using terms and words that were unrecognisable years ago. But today these words have an accepted wider-spread meaning about trends within the sport.

In this way we are developing a vocabulary, which those of us interested in that side of gliding, can use as a sort of shorthand, nay even jargon. 'How do you find the time?'

This writing comes from two base sources. First, my hermit existence permits me to talk out loud to the kangaroos and lizards around my home and get the impression that it is beginning to hang together; and then write it up as a current 'position' on an issue. Thinking time comes while 'doing' alone: working on a winch, refurbishing a glider, or mowing the strip. The other source is interaction with glider pilots: at home during a normal club flying day; during coffee after flying; during a chat on a mid-week day of just private owners together; away at a competition talking amongst glider pilots from diverse places; the diverse comments on a thread in *aus-soaring's* virtual world.

Each contributes to inform those of us thinking about gliding into an uncertain future.

One of the trends ruminated on is diversification within gliding. Diversification can mean either where the various individual niche markets within the sport might operate cooperatively, or alternately might split up into individual stand-alone sports. Distinct segments have been suggested by commentators on the sport before. The sport has inherent within it a range of activities. The commercial operation serving convenience flying at one extreme, through to the self-help crew operating from a bare strip in the scrubby heath at another. With permutations between of collective and individual sailplane ownership, winch, aerotow and self-launch, basic to extensive facilities in terms of clubroom, workshop, accommodation, and so on enabling innumerable other niche categories across the range.

A simplistic view might be that commonalities tie the various parts of gliding one to another; that possibly these might expand to also include allied activities, hang gliding, ultralights, and so on; that we will all fly in the same sky, and despite individual preferences, have the common good and tolerance for one another as a key stone to keep us all in one bond.

A contrary view is that the individual preferences outweigh a common view of sport aviation; that this is just human; that even without Part 149 to provide multiple individual organisations to serve niches individually, there are reasons why each segment of gliding will increasingly, over time, more and more operate as if on its own. To the sophisticate, the bottom feeders of gliding are beyond the pale; bringing the exquisite of the sport, right down to its conversation value at parties, into disrepute.

Some might argue that gliding's federal administration similarly services different niches in the sport with differing effectiveness, being geared by pricing, processes and understanding to one dominant approach to gliding. If you don't fit that mould, you might as well go away as expect the bureaucracy to serve you. The splitting up of the sport is thereby accelerated.

If one were to argue that a cohesive single soaring sport is a desirable outcome, then there are things that 'the GFA is us' will need to do at federal, regional, club and individual pilot level to make that happen.

Without direct intervention, it is likely that isolationism and separate gliding niches will be the 'natural' outcome of the things we do now.

The benefits of the cohesive model are that people can move within gliding from clubs serving them as interested onlooker, student pilot, solo club fleet flier, private owner, contest enthusiast or relaxed retiree scenic soarer by moving during their gliding lives to a succession of clubs or sites with each specialising in that particular part suited to that aspect of the pilot's life cycle. Arguably, more people can stay in gliding longer – ostensibly, with less friction and aggravation because of conflict between where the pilot is at in their life cycle, and the dominant niche preoccupation of the resident club. Things that need to happen include:

- *we individual pilots need to understand that we have differing needs at different times in our lives; what these differences might be; and how to recognise, anticipate, plan for change*
- *clubs need to be aware of their individual niche preoccupations.*

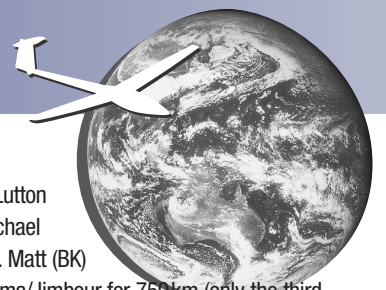
For example, if your club has a lock on the front gate, well developed ground facilities and a close-knit membership; you are a gentlemen's flying club and may not seem to be approachable by the onlooker out on the bypass road.

If this is not what you want to be, you know what you need to do.

The federal level will need to develop an inclusive vision – something along the lines of: *'We will ensure to serve effectively all people wishing to be participants in gliding to suit the participants' needs, with a view to maximising their period of involvement.'* Such motherhood statements are easy. The federal executive need to also acknowledge, at least to themselves, the things they are not good at.

Failed successive organisation amalgamation, magazine combination, plebiscite and survey projects are an unmistakable indicator that you need to go beyond internal resources for their necessary skills, and that the next project had better be a roaring success. Failure at these levels is likely to result in gliding accelerating toward being dismembered into its individual component parts.





Local News

Canberra Gliding Club

It was a wonderful surprise for committee members of the Canberra Gliding Club when we became aware that John White had been awarded the Wally Wallington Award for 2000. At that time, John was organising one of his coaching session. Invitations had been extended to members of other clubs in Canberra and our local HGFA club members to attend the briefing on gliding physiology by an AIS nutritionist.

Being the devious people we are, and knowing that John was not aware he was to be a recipient, we asked Joyce Wallington to present the trophy. Joyce accepted and became part of our plan. It was a proud moment for both Joyce and John, who are very good friends, and it was great to have the opportunity to have the presentation made at a club function, the day before the December edition of Australian Gliding/

Skysailor hit our letterboxes, announcing the award. Well done John, this is recognition from your peers.

Stuart Ferguson, President



John White with the Wally Wallington Award trophy
Photo: Stuart Ferguson

Orana Soaring Club

A busier-than-normal time from mid-December to the end of February for the Narromine-based Orana Soaring Club with the annual 'alien invasion' by our friends from several Queensland clubs, a three-week gilding camp for members of the Southern Cross Gliding Club, and a host of visitors from throughout New South Wales, Japan, Belgium, Holland, Denmark, Germany, Great Britain and the Czech Republic.

Numerous long-distance flights were made including an extra-special one by Queenslander Chris Woolley who realised one of his long-time dreams – to fly 750km. Despite having no audio vario from one hour into the flight, this was achieved

on 12 January with a task from Narromine airfield to Temora aerodrome then Mungeribar north to Tichborne silo and back to Narromine – a total of 753.9km at an average speed of 107.6km/h. Chris experienced climbs up to eight knots to 10,000ft and a final glide of 92km into a blue sky with an eight-knot tailwind.

Anne Elliott

Warwick Gliding Club

Australia Day brought fairly good weather to the Darling Downs and some excellent flights for Matt Anglim, Heath L'Estrange, Val Wilkinson, Errol Spletter,

Stuart Lutton and Michael O'Brien. Matt (BK)

flew Roma/Jimbou for 750km (only the third 750km flown out of Warwick); Heath (WQH) flew his first 500km, out and return Drillham; Val (XOT) and Errol (WR) also flew a 500km out and return Drillham; and Stuart and Michael (UIZ) flew Macalister/Killarney/Pratten for 400km.

All the 500s were fairly fast, under six hours, but rain limited options. The following day saw slightly better conditions which resulted in a 773km flight for Michael O'Brien (WR) to Drillham, Clifton, Jimbour and an outlanding at Clifton, and a 700km flight for Matt Anglim.

Michael O'Brien

Bathurst Soaring Club

The club will again be hosting an Easter regatta from Friday, 13 April to Monday, 17 April, directed by Colin Turner. It is open to all experienced pilots, but numbers are limited on a first-in best-dressed basis.

The contest will be handicapped and is open to all types of gliders. The tasking system will be POST and verification will be by approved data loggers or Garmin Track log. Launching is by aerotow.

Nick Gilbert

New Standard Class Speed Record

Miles Gore-Brown smashed his own Australian Standard Class 500km triangle speed record by almost 10km/h on 23 January this year. Flying his Discus (76) Miles departed Narromine runway intersection, flew to Lake Cargellico airfield, then on to Garema silo and back to Narromine in an elapsed time for the 508.69km task of 3:45:06 at an average speed of 135.29km/h.



Chris Woolley being welcomed home by Mitch Turner and Adam Woolley after successfully completing a 750km task



Miles Gore-Brown



GILBERT GRIFFITH

The Atos rigid wing is new to Australia and still rare, with only three flying as of the beginning of our 2000/2001 season. Australian hang glider pilots seem reluctant to buy the new technology, but considering the price of the wing and scarcity of dealers willing to stock them, this is understandable.

After test flying an Exxtacy rigid wing a few years ago I started saving with the hope that a visiting pilot would be willing to sell rather than pay high freight costs to take a glider home. Early this year I was rewarded when Davis Straub decided to leave his well-competed Atos with me. Even though my sponsorship deal with Icom fell through after I'd committed myself, I am forgetting the cost and revelling in the performance and ease of flying.

The Atos is designed by A.I.R. of Germany. Span is 12.82m, wing area 13.6m² and aspect ratio is 12:1. Weight is quoted at 33kg, but mine weighs 40kg in the bag. L/D is quoted at 19:1 with a best sink rate of 0.7m/sec. The structure is carbon fibre spar and leading edge in the form of a D cell with taper and removable carbon tip wands and ninth rib. Eight (per side) carbon fibre ribs are hinged to the rear of the spar to allow folding. The control frame is hinged at the top to allow it to swivel side to side; it therefore pulls on the side wires that control spoilers in the upper surface of the wing. Pitch control is by weightshift, and normal weight shift movements control the spoilers, so flying technique is the same as for a normal hang glider, but the effort is minimal. The flaps are activated by a pull cord and cleat. Setup takes about 20 minutes,

similar to a high performance hang glider, and breakdown is quicker.

My first fly in an Atos was in January last year. I had spent the previous afternoon with Davis unpacking and packing his Atos on the back lawn. I kept thinking that it was all too much, and we were both having second thoughts – he wanted to keep it, and I didn't want to buy it. But we had laughed our misgivings away, and on the Sunday driven to Mystic for a test fly.

Paragliders were hogging launch as usual, but taking off in good time, so we picked a spot and assembled the Atos. With only a few guiding prods from Davis I had it assembled correctly, loaded with harness and instruments and ready to go. This is when I started to get really nervous.

Paragliders were taking off in light cycles, and after taking over nearly half the launch with my big span, I waited while little puffs came from all directions. Eventually, after about a fifteen minute wait, a good cycle started and I ran off. No problems.

The good lift was out in front (unusual) and I started turning immediately. I rocketed up through the gaggle of paragliders, not pushing out yet, but flying at trim with about one third flap on. Once on top of the stack

with no traffic to worry about I was able to slow down a lot with a large amount of push-out and almost no wind noise at all. Without an ASI I guessed I was flying at about 30km/h and still climbing better than my SX4. I was unused to the control frame wobble at first, but thought that my technique would improve.

I explored, not only the area for lift, but also my flap settings and speed range. It was great being able to spot a glider in the distance and just zoom over there and find the lift without seeming to lose any height at all.

My first landing could have been better – I flared too late and bellied in on the wheels I'd borrowed. As it was the local ultralighter's BBQ day at the hangar there were plenty of friends there to paw over and discuss the merits of carbon fibre and gliders (as well as having a friendly go at my poor landing). I did remember to point out that at least I didn't bounce, which happens a lot here with most of us who fly tail-draggers.

My next flight was a week later, back at Mystic. The wind was light, cycling up the face at 4kt, but a slight southerly at altitude made the climb out a little rough. For the second time the Atos climbed out like an advanced paraglider, but better. I could hardly believe it. Paragliders (flying in a competition) dotted the sky in gaggles. There were few hang gliders among them, and a couple of sailplanes were also casing the area, weaving in and out of everyone. Nothing wrong with that, so was I!

I had a goal of a short flight to Mt Beauty to pick up Davis' car, which he had left at Mountain Creek Lodge the previous weekend. So there was no hurry and no stress. First I flew west to Porepunkah to share a thermal with a sailplane scratching low there. On the way I passed a few paragliders who were hacking into the headwind to a turnpoint at the Porepunkah roundabout. With the bar back so far that I couldn't read the vario, I was clocking 80km/h and passing them sideways, under, and over, like they were standing still – woo hoo!

The sailplane headed back towards Benalla and I returned to Mystic for a top-up, followed by the usual routine: Gold Mine, Pyramid, Mt Beauty. Only this time I decided to take advantage of the L/D and go into the mountains over Mt McKay, Bogong Village, and almost to Falls Creek ski resort (just a bit too far into tiger country for my confidence level as yet).

After this, my second flight on the Atos, I was more than thrilled by the L/D and the speed range was great. My main reason for getting a rigid wing rather than, say, a new Litespeed, is the ease of control. After 2.6 hours in the air I was not tired or sore; I got more of a workout trying to unhook and crawl out from under the glider than I did for the whole flight. It is possible for old farts and weekend flyers like me to keep a rag wing in the air for five hours or more, but it's not easy. Taking

away the hard work of pulling long VG cords and trying to control a rag wing when it doesn't want to turn is great, it's a lot more like flying in a dream. Something I've dreamed about for 40 years, finally coming true.

I've now logged just over 45 hours of air-time in the Atos. A great percentage of that has been in testing the limits, not just boating around. There are great possibilities for aggressive flying when the conditions are right. I'm working on a Split-S for quicker U-turns, and a climbing vertical half roll for maximising small bubbles of strong lift, rather than flying through, doing a U-turn and then trying to find the lift again. I'm very much looking forward to future hours in my Atos.

The Atos — Another Perspective

I first became aware of the current crop of rigid wing hang gliders in late 1997, via a hang gliding mailing list on the internet, when news of a new type of hang glider emerged. This glider was the Exxtacy produced by the Flight Design company. It's not actually strictly correct to refer to the Exxtacy as a new type of hang glider as there were gliders of similar design around at that stage but Flight Design was certainly the first company to mass produce them. I was immediately drawn by the claims of superb performance coming from a glider that was extremely easy to fly. Since then I have closely followed the development of the rigid wing market mainly through an e-zine produced by an American, Davis Straub, who is a frequent visitor to our shores [www.davisstraub.com/OZ].

Davis bought an Exxtacy soon after they became available and then upgraded to an Atos in early '99 and fills his e-zine with stories of his flying adventures.

Felix Ruele, the designer of the Exxtacy, designed the Atos after splitting from the Flight Design company to create his own company A.I.R. The Atos represents a refinement of the design philosophies first seen in the Exxtacy. It is lighter, quicker to set-up, better finished and performs better than the Exxtacy. Since the advent of the Exxtacy several other companies have commenced building gliders of similar design. Apart from the Atos these include the E7 from Guggenmos, the Ixbo from Tecma and the Ghostbuster from Flight Design. Coming soon from Aeros is the Stalker which differs from those previously mentioned in that it employs ailerons similar to an aircraft to initiate roll instead of the spoilerons utilised by the other gliders previously mentioned. Spoilerons sit on top of the wing and when deployed "spoil" the lift from that wing hence initiating a roll towards that wing. All these gliders employ an A-frame similar to a normal flex-wing hang glider as the control mechanism. The difference is that the side-wires are not structural and serve only to deploy the spoilerons and hence provide roll control when the A-frame is moved sideways. Pitch control is via weightshift as for

a normal hang glider. An American company, Brightstar gliders, has taken a different design path and its foot launched glider, the *Millennium*, has the pilot enclosed in a cage suspended below the wing using a control stick similar to a normal sailplane's as the control mechanism.

My personal experience with rigid wing hang gliders commenced in October 1999 when I was able to purchase a second hand Exxtacy for quite a good price while learning to fly sailplanes at Lake Keepit. I had only one flight in it when I was cold-called by a prospective purchaser and was presented with an offer I couldn't refuse. I had really enjoyed my flight in the Exxtacy but had been daunted by the sheer weight of the thing, about 48kg. There was no way I was going to be able to manage that weight easily by myself so I decided to accept the offer and immediately placed an order for an Atos which at 36kg is still a handful but can be managed on my own. The glider arrived in late December and I picked it up from the Airborne factory in Newcastle while on the way up to Brisbane for Xmas. Soon after came my first bad experience with the glider, before I'd even flown it! While setting it up in a park near my Mum's place I managed to snap one of the carbon fibre struts while trying to lock it into position. A period of depression followed as I wondered what in the hell I had let myself in for. Fortunately I was able to track down Davis at Manilla after detouring slightly on my trip back home and he very kindly demonstrated how to perform the repair by actually doing it for me. Shortly after that I put together a repair kit containing carbon fibre matting and resin but of course have never needed it. The glider is not nearly as fragile as it seemed after that first experience.

It is now a little over a year since I first flew the Atos and I have racked up a little over 90 hours of airtime and so now feel qualified to make some comments about the Atos's abilities.

The handling is indeed excellent. The glider launches very easily with about 30° flaps and with full flaps the glide is degraded to almost to that of a floater making it very easy to land. Set the flaps to 0° and the glider simply seems to surge forward. Turns are very easy to initiate but occur more slowly than even a stiff high performance flex wing. Two things that should be noted when commenting on the handling are as follows. Firstly, rigid wing gliders will spin. There have been several instances overseas where rigid wing pilots have got themselves into ugly situations where they have been flying the glider too slowly for the conditions and a spin has resulted. The good news is that the glider will recover quite happily by centring the control bar and pulling in slightly but quite a lot of altitude can be lost in the process. Secondly, the V_{NE} in a rigid wing glider is something to be respected. In a normal flex wing hang glider you can pull out of a steep fast dive quite savagely and the glider will

simply flex and vent the forces. The same manoeuvre in a rigid wing such as the Atos could well see the wing disintegrate around you. Most hang glider pilots will find these features a little unsettling but to sailplane pilots it would seem just like common sense.

The performance is fantastic. The sink rate is quoted as being 138ft/min at max wing loading. In practice I find that in big areas of smooth lift such as those found at big coastal sites such as Stanwell Park or in ridge lift conditions at sites such as Blackheath I generally find it quite easy to stay well above the other pilots. In big smooth thermals I also find myself able to out-climb most other pilots but as soon the thermals get more ratty or broken up I find my advantage disappears as I find it more difficult to turn fast enough to stay in the best lift. Of course in these conditions pilot skill also becomes more important and more skillful rigid wing pilots might well be able to make more of the conditions. The best glide is quoted at 19:1 and in my experience I would say that would be pretty accurate. I have now flown in two Corryong competitions in the Atos and in both there were several pretty good pilots flying topless gliders. In my estimation from my experiences at those competitions the Atos would definitely have a several points better glide at best glide speeds than the topless flex wings. However I believe this advantage disappears as the speed is pulled on and profile drag becomes more important. I think it would be fair to say that the Atos is great cross-country glider but not necessarily a great racing glider. I think results in major hang gliding competitions in which both rigid and flex wings have competed support this.

The recent Corryong competition highlights some of both the good and bad points of the Atos. Three days of the comp were classic cross-country days. On each of these I was able to arrive at goal in first place. A couple of the other days were extremely hot and stable with ratty little thermals and on these days I finished well back in the field. Of course this also says something about my patience and flying skills. More skillful pilots might well have got more out of the Atos on those days.

To finish I would say the Atos, or any of the other rigid wings, is a great choice of glider for a pilot who does not get to fly quite as much as they would like and is willing to pay a premium to maximise the quality of the opportunities they do get. A small statistic gleaned from my logbook supports this conclusion. My local site, Blackheath, is a beautiful site to fly but historically has not proven a great cross-country site simply because to get anywhere you normally have to punch headwind and get across Victoria Pass about 7-8km to the north-west. In high performance flex wing hang gliders I'd estimate my success rate in getting across the pass at less than 30%. Since getting the Atos I have been able to get across the pass on 10 out of 12 flights.





Beer at Boggabri

EWAN McCABE

Gordon and I travelled the well-beaten path from Perth to Manilla, mainly to fly, but also to meet up with some old mates: Ivan, whom I learned to fly paramotors with and who was my UK PPG flying buddy for two years; Dave, whom I'd met on an SIV course in Turkey last year; Jocky, who ran the SIV course; and John, who was Jocky's in-flight cameraman.

We arrived late in the day and had a long, relaxing bomb-out. On the second day there wasn't much wind, so a bit of ridge soaring and a couple of bomb-outs were the result. We also watched Ivan take some people up tandem.

On the third day we used Gordon as the wind dummy (being a WA pilot he was the only one confident to launch in the strong easterly). He boated around for about an hour before the rest of the crew was ready to go.

With everyone aloft, and on Jocky's command, we headed out away from the hill to look for more lift. At that time Gordon and I were both a bit low and never got as high as the others. But in the end it didn't matter as everyone bombed out after only a few kilometres. I landed just behind Gordon, with the rest of the guys landing not too far away, allowing an easy retrieve for Jocky's better half, Kate.

Gliding to the next thermal
Inset: Ewan in flight

Two no-fly days followed, during which we discovered that alternative recreational facilities are a bit limited in Manilla.

The following day dawned bright and breezy, with a couple of shredded (due to high wind) cu's forming. Again Gordon took his place as wind dummy and got good height above the hill. Again we farted about on the deck before Dave, John and myself launched. Ivan was sitting this one out as he'd had an 80% collapse on his Vertex close to the hill the day before Gordon and I arrived, and didn't fancy the strong conditions.

Godfrey's offsider, Rhett, wing-overed close to the hill with his Advance Omega 5 prototype with modified line set – faster than Godfrey's record breaking Omega! To look at him you'd think he was flying a coastal site with a steady sea-breeze.

With everyone bar Ivan aloft, we sat facing into the wind with occasional very lumpy bits of lift coming through. The wind was now picking up and Jocky ordered us to fly out and down, or if we had enough height, to go over the back. Dave went out and down, whilst the rest of us went over the back.

Gordon had minimal clearance going over the back, but managed a very good (but firm – thank you Mr Hanwag) landing.

Jocky and John headed towards a ploughed field but just went down.

I headed towards a different field and started to go up slowly. After about 15 minutes I'd gone from 200ft agl up to cloudbase at 5,800ft amsl. Underneath me Rhett was working away at the same thermal. Unfortunately he was on channel 41 whilst I was on 16, with my radio stashed away in my harness, so we could only use hand signals to communicate.

Once Rhett was up to cloudbase he headed off on a downwind glide. I thought, 'Yeah, that's what you're supposed to do.' So I followed.

The air was pretty lifty, with only 1's and 2's down on the glide. Then sure enough, with plenty of height to spare, we contacted with another thermal (under a nice looking cu) and headed back up to cloudbase. Rhett pointed to the next range of hills and off he went again. He was in front and to my left heading for the highest point on the range. I felt that I couldn't do the glide to those tree covered hills, so aimed towards the right where the range was lower.

The glide was fast, with the GPS saying that my ground speed was almost 60 km/h. Rhett later said that he was clocking over 70 km/h.

I arrived low over the hills to see Rhett back at cloudbase and heading away downwind again. I scraped low over the range, working the ridge lift and got up to about 4,000 ft amsl before heading downwind on my death glide. There was a township just visible in the distance now, but nothing else apart from a long straight dirt road and the odd homestead.

At 400 ft above the homestead I'd chosen to land at, I contacted some lift. 1's and 2's, but I couldn't find the core. As usual I slipped in and out of it without being able to build up a mental picture of where it was. The patron saint of WA free-flyers then turned up right on queue – a wedge-tailed eagle! I headed to where he was (I was now at around 250 ft agl) then... Wow! 12+ on the vario! Something was definitely happening, apart from my harness giving me a wedgy! I turned and listed to the vario, altering the outside brake only (à la Jocky's directions). I turned and listened, turned and listened... With no sense of the passage of time I realised that my fingers had become cold. I looked at the vario: 6,050 ft. I was back at cloudbase. Looking around I spotted Rhett about 2 km off to my left and at about half my height – yes!

The thought of a cold beer entered my mind for the first time. The township of Boggabri was now looming large, downwind and to my left. Rhett was now above the town and doing some wild wingovers to loose height (and pose a bit, I suspect). He checked out the footy pitch, then their cricket oval, and back to the footy pitch. Bugger, the cricket pitch was nice and open, but the footy stadium was closed in, with the downwind side lined by flood lights with power cables looping between them.

It was a strange feeling, being 1,500 ft above the town with a two up on the vario and thinking about where to land.

Rhett wing-overed onto the footy pitch, whilst I tentatively crept past the powerlines, worrying about the wind speed and direction on the ground, and landed beside him.

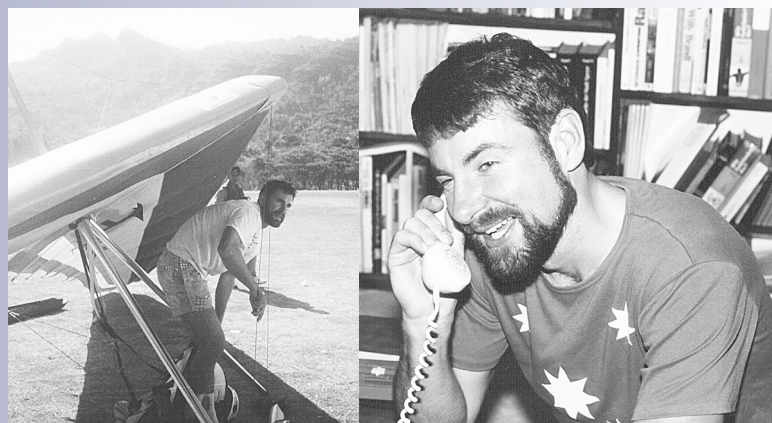
Judging by the reaction of the associated dogs and children, not much happens at Boggabri... ever.

Dave, who'd drawn the short straw with the retrieve, had set off before we'd landed, so we only had time for a couple of coldies before he came on the radio to say, "I'm just coming up to the Imperial Hotel at Boggabri," which was, coincidentally, where we were.

Basically, I suppose this was the kind of flight I'd been aiming for all these years, and now that I had done it I wanted to do it again!



Gordon in flight



Alaric Giles

Al keeps house with the faithful Anna (and a motley parade of pilots who pass through downstairs) at Whitebridge in Newcastle, three minutes from Dudley launch and four from the AirBorne factory. He is the Senior Safety Officer (inland) for the New Castle Hang Gliding Club and refuses to fly on the coast as it is too close to the big blue paddock that is known to swallow ex-flying machines. One of the many Newcastle Flying Doctors, he works six months a year as an allegedly caring GP, and flies the other six. In his earlier years, he was renowned for walking away unharmed from the ruins of yet another flying machine, appearing slightly puzzled as to how it could have got into this state. Later on he learnt some flying theory, which reduced the puzzlement and eventually the wreckage. Al was the first pilot to soar the Morning Glory in a hang glider, and the only one to soar it in a trike.

Name: Alaric Giles

Age: 42

Flying hours: 1,600

Place of abode: Newcastle, NSW

Occupation: Medical layabout

Usual glider(s): AirBorne Shark,

Advance Epsilon 2, Rolladen-Schneider

LS4 (Alice), AirBorne Buzzard.

Club: Newcastle Hang Gliding Club

Reason learnt to fly: On the first day of uni in 1977, all the sports clubs had displays out to attract new members, despite the fact that it was pouring rain. I ducked under what I thought was an awning to keep dry. By the time the rain stopped, the guys underneath the kite had persuaded me to have a go down at the sand dunes next Saturday. The weekend after that, I was the instructor, which was better. I learnt heaps from watching my students crash.

Favourite flying moments: Soaring up the back of the Morning Glory just before it swallowed me. Flying 100 miles in the Owens and landing at Janie's Ranch. Surviving a tailwind landing at 13,000 ft in the Himalayas. Triple-towing with Conrad and PPP either side of me behind Andrew Pepper's LandCruiser across the Burketown salt flats.

Favourite flying site: Manilla, NSW

Interests outside flying: Thinking about flying. Talking about flying. Reading about flying. Surfing, bushwalking, road cycling, Anna.

Career/life goals: Fly a little further.

Favourite non-flying moments (there must be some): Rainy Sunday mornings with Anna. Swimming away from Alice after landing her in Lake Keepit. The first beer after landing.

Some of my material possessions include: A Laverda RGS 1000 (Elle), a garage to house her, a house to go with the garage, a wine cellar to go with the house.

When asked by my spouse/partner whether flying or 'the relationship' is more important I usually reply: She doesn't ask.





Getting to the Core of Clouds

Reprinted courtesy of international glider pilot JOHN COUTTS and SAILPLANE & GLIDING <www.gliding.co.uk>

The art of thermalling begins well before you even start circling.

It can be divided into two phases. First, you must locate the general area within which you think the core could be. Second, you must find – and keep the sailplane in – the strongest part of the thermal column. Many pilots can recognise a good area, but can't locate the strong core quickly enough.

Techniques for searching and centring vary from pilot to pilot. However, the fundamentals of successful thermal centring are the same so, rather than recommending any one method, I have simply detailed some rules that seem to work for me. When you watch the pundits, you will clearly see that they have an uncanny knack of locating a good core instantly, requiring minimal amounts of centring. This is not purely luck: they have been carefully studying the indicators which help pinpoint the core. If it is a reasonable day for soaring, there will be cumulus marking the next search area. As you glide towards it, you should be carefully studying all the clues, such as the development of the cumulus ahead or, on blue days, searching for signs of a thermal leaving the ground.

Understanding cloud is perhaps the most important skill in gliding, since the majority of our flying is in conditions where thermals are marked by cumulus. As a general rule, the larger the size and depth of the cumulus the more studying and searching is required to find a good climb. Two examples: on a day with small cumulus marking the top of the thermals, the area in which the lift should be is relatively small so the lift is found quickly. On the other hand, a cu-nim may have an excellent core or even cores – however, there is an extensive cloud shelf to search under.

Techniques for searching under cumulus therefore differ according to the size of the cloud. Consider these basic rules which I employ while searching for the best lift:

Shallow cumulus

These conditions are ideal as the cloud distribution is low (probably less than two-eighths) and ground heating is not impeded by cloud shadow. Unfortunately, the thermals can cycle quickly, meaning that often the best climbs are found by flying towards developing wisps. Conversely, promising-looking clouds can produce little.

- *If cloud centres fail to work well look for edges that show the most rotation or movement.*
- *Only search the areas of cloud that are clearly growing.*
- *If a cloud shows signs of decay, look to the sides for signs of new wisps forming, especially upwind or downwind in breezes stronger than 10 kt.*
- *When low, finding heavy sink can be a good sign: look carefully at the cloud for a building edge and the corresponding lift.*
- *Allow for wind drift – that is, when low look slightly upwind.*
- *Prepare to leave before cloudbase due to small latent heat generation (heat energy released by vapour condensing to cloud forming water droplets).*

Moderate cumulus

When the clouds grow higher they tend to occupy a larger proportion of the sky, perhaps four-eighths. If the airmass is moist enough with a strong inversion, there is a risk of spreadout. Cloud shadow covers more of the ground; indeed, the clouds now grow big enough to block ground heating and can starve themselves. If this happens, the cloud dissolves and once again the sun can heat the ground to produce another thermal. This is known as cycling. Generally, if you're getting down to below half the height of cloudbase, you need to look for cores under edges of good clouds where the ground is still in sunlight. If there's no sun, you could be in trouble!

- *Stay high to use latent heat effects.*
- *Look for the darkest, most defined base with a concave shape.*
- *Look for tendrils of cloud and centre directly underneath them.*
- *When there is a recognised step in cloud base always search under the higher side.*
- *Be very wary when there is no sun on the ground underneath a promising cloud, especially if you are low: watch out for cycling.*

Large cumulus

These clouds normally indicate that the airmass is unstable and by late afternoon areas of over-development can be expected. More than four-eighths of the sky can be covered by cloud. Now you really need to consider the effects of cloud shadow. However, cloud shadow alone is unlikely to starve the thermal, because large cumulus may begin sucking the air upward: that is, the instability within the cloud promotes and prolongs convective motion. This, combined with plenty of sun on the ground, can give phenomenal climbs that improve near cloudbase.

It's crucial to study large clouds carefully before you arrive underneath because, as well as finding the lift, you also need to avoid the sink. Exploding cloud tops should indicate the general search area, and you should hone in on tendrils once underneath. Use the same techniques as for moderate cumulus, plus the following:

- *Look for climbs against the downwind edges of rain showers, usually marked by a small line of tendrils.*
- *Fly under cloud domes that seem to be rising fastest (that is look the freshest).*

Blue conditions

Unless you see gliders/birds circling or a haze dome, you must rely on ground features to indicate where a thermal might be. Following high terrain is also necessary, especially if there are narrow valleys. In the blue, with no obvious signs of lift, all you can do is fly on track, taking in any town or field that looks like it attracts more heat. Once you find rising air, it can be hit-and-miss whether you locate the core. In winds of more than 10 kt you can consider looking upwind or downwind for blue thermal streets. If the thermal is on its own then you should turn into wind, unless there is a clear indication the thermal is downwind.

In droughts and dry environments like Australia, dust devils offer the best clue to the thermal's location. Sometimes the best ones are in the middle of two or more dust devils. These develop as individual cores that feed into the main core. Smoke, dust or the waves on a lake can also indicate possible ground winds feeding a thermal core. It's usually quite hard to locate the core on the ground surface alone unless an obvious trigger point can be seen: a high or moving object, or the downwind edge of a likely thermal reservoir. If you have read the situation correctly to this point in your flight, you should be flying in the most probable area

for a respectable thermal. The next task is to centre in it and keep the glider there. Visualise the thermal's distribution, then move the glider's circle, by whichever method you prefer, over the core.

There are many techniques for centring in thermals, some of which can seem rather technical, so here I shall suggest what I find works for me. The strength of thermal decides the action required. Generally, anything less than three knots is going to be of limited size and therefore small corrections should be made. Try to fly the glider accurately, using only moderate bank angles (up to 30°) – moving the circle centre by widening out the turn seems to work best.

If the lift is greater than three knots, employ more aggressive techniques, especially if the core is really strong. Usually, steeper bank angles are required (45°-60°) and even tightening up the turn more in the best bits works well.

Occasionally (especially in blue conditions) you will hit an extra surge: by turning really tightly you can stay with the bubble for a few hundred feet. It is common to climb right through a gaggle in such a bubble. It is very rare that you come across the perfect thermal that is round and is going up all at the same rate. Often the thermal is a little broken, elongated and irregular in shape. When thermals are like this (that is, most of the time) remember it is physically impossible to get

the glider completely within the thermal climbing smoothly.

The key is to centre on roughly the middle of the thermal and use only minor adjustments to feel the best of the air, slowly working your circle into the best parts and keeping it there all the way up. You may even elongate your circling to mirror the shape of the thermal.

In strong conditions your priority is to get the glider in the core as quickly as possible!

- *The reverse turn centring technique is one of my favourite tools in larger thermals.*
- *Don't be afraid to crank it over: many pilots don't turn tightly enough when a reasonable core is found.*
- *If you lose the core, widen out the turn to extend your search area.*
- *At the beginning of a thermal cycle, the thermal may be wide and smooth but not very strong. However, hand in there is the strength slowly increases with each turn.*
- *At the end of the thermal cycle, you may get half a turn in good lift but the rest in rubbish. If the next turn is worse you have probably arrived too late.*

While circling in a balanced turn (with the yaw string straight), you may notice that you need to hold a slight amount of opposite aileron, that is, out of the turn. This is because the inboard tip is travelling slightly slower than the outboard tip. While circling in this manner a portion of your wing section is not in an efficient form for circling flight. To centralise

the ailerons during circling flight use a small amount of top rudder. This will result in the glider slipping around the turn. This increases the angle of attack of the inboard wing and so produces more lift. The amount of slip depends on the angle of dihedral: more dihedral requires less slip.

Don't compromise on instruments. I prefer my mechanical variometer for visual and the electric variometer for audio and average climb. However, variometers tend to respond to horizontal air motion as well as vertical, hence those times when the instruments indicate good lift for momentary periods, when the seat of the pants tell you otherwise. Your instincts are a valuable tool that should not be underestimated. Climbing has to become second nature. You need to be sufficiently current to instinctively centre and re-centre the glider without thinking about it. Time circling should be spent concentrating on your next plan of attack, observing the conditions ahead and looking at secondary options.

Last but not least, don't forget your lookout. New Zealander John Coutts began gliding in 1991 at Auckland GC, aged 15. He won the Standard Class in the New Zealand Nationals twice. John arrived in the UK in 1999, and flies LS-8KM from Booker and Cambridge Gliding Clubs. The youngest pilot in the 1999 World competition, he came second in Standard Class.

F = < 1

EMILIS PRELGAUSKAS

Gliding is composed of innumerable little anecdotes which are so well recognised that they usually aren't written down or commented on. I remember a time when sailplanes had tailskids. These have their own issues of ground handling and judging the wearplate life. Then the tailwheel came into being, and over time the 210 x 64 became standard issue on most glider types.

This suits glider pilots fine, as standardisation helps in giving clubs an even chance of having a spare to hand when needed, and reducing the numbers of one off items to be kept to hand despite a fleet of diverse sailplane types. And tailwheels serve the gliding community well. Operations continue for months (years?) without a thought, as that little wheel does its thing unremarked on at the back of the sailplane. And a well known phenomenon occurs when there is a flat tyre. The 210 x 65

has numerous features aimed at making the glider pilots' life hell. The rim is soft aluminium. So a flat tyre will lead to perimeter distortion on the rim as the glider rolls to a stop. This however will add several more rips to the tube. The rim itself is easily enough beaten back into submission with a peen hammer.

It is also solid. Whereas larger wheels have split rims to assist the mounting of tube, valve and tyre. Another glorious opportunity during disassembly and reassembly to catch tube between tyre and rim, or catch it with the levers, and create another leak. Glider pilots have retaliated by pumping in 'Slime' or similar products to aid self-sealing on puncture, and use a variety of heavy duty patch products to restore the tube.

But gliding's axiom $F = < 1$ comes into play. I'm convinced that the only time a tailwheel goes flat is after something else, some other minor defect which has been on the individual sailplane for ages, has been restored or fixed up on the glider. In my recent case this was a disconnected wire on the radio. The tailwheel went flat on the flight on which the radio operation was checked after repair. Similarly there is the phenomenon where the replacement

tailwheel just put on the sailplane goes flat, while the just repaired one recently taken from the sailplane remains inflated and serviceable while on the workshop shelf. From this a frustrating round of tyre disassembly, reassembly, fitting and removal gets underway. Eventually everything settles down when by some unexplainable shakedown process the tailwheel with the permanent slow leak ends up on the workshop shelf.

At this point operations can resume with no thought about tailwheels for months (years?) to come. By which time I've forgotten again that the tube comes out easier if the valve is slipped out of the rim first, and the tube pulled out from the opposite side.

These are all examples of the $F = < 1$ principle. That at no time will all pieces of the gliding operation be fully operational at the same time. If only I could discover something that would make a permanent mandatory unserviceability that could reliably be set down on the sidelines of the gliding operation so that all the other component parts would be and remain serviceable.



Stepping Out

LEIGH YOUNDALE

There is a significant psychological barrier to commencing cross-country soaring. It's taken me some time to get to the point of doing so successfully and I wanted to share my experiences, not for the many experts out there but to encourage those who might be in a similar position to the one in which I found myself.

I started gliding six-and-a-half years ago, in my mid-fifties. In the middle of it all, a year off was forced by changes brought about by a redundancy and career change, so effectively my experience covers just over five years. Initial progress was a bit slow due to time constraints and it seemed for a long time that on the weekends I could get to fly I spent two flights simply getting back to where I'd been and then the third one represented some progress. It took almost a year and 51 flights to go solo. Another 40 flights and then a year off.

Two years after resuming flying, in late 1998 I was getting frustrated that all I was doing was local soaring. My club at Bathurst is situated in country which is not as inviting for outlandings as the flat wheatlands further west, and that represented part of the barrier to be overcome. I decided to go to Benalla, where the country is more accommodating, for a week-long course. Only two of the days turned out to be really good flying. Roger Druce from VMFG took me on a lead and follow exercise, which was helpful, and although taking me out of my comfort zone at least I could see it was possible and there was someone to coach me along. We covered 113km to Peechelba, Tungamah, Benalla and averaged just 45km/h. I'd strongly recommend this practice to anyone getting started on cross-country flying and who is a bit apprehensive about it.

On the last day I declared Balldale and return to get my Silver C distance. I was to be accompanied by Roger, but following my launch the tug broke down and after waiting around for over half-an-hour I eventually pushed off alone, not feeling very confident. Well, it developed into an interesting return flight for as I turned Balldale I realised I had a strong headwind to contend with. I seemed to go up and down on the spot several times and more than once had a paddock chosen near Balldale and later near Wangaratta, but eventually I was able to get away. I was flying too slow of course, and the wind strengthened

to as much as 28kt during the afternoon. The result was a distance of 187km but an outlanding just six nautical miles short of Benalla airfield, which was pretty frustrating!

About this time I became a member of a Libelle syndicate so having the same aircraft to fly regularly was definitely a help in developing greater consistency in my flying. In the next 12 months I see from my log book that all I did was one short 92km out and return to Oberon – the rest was local flying. The barrier was alive and well!

Then the club organised a camp in late November '99 at Tooraweenah. I only flew on three days but on one of them Bob McDonald in his Hornet kindly tried to guide me around a 300km task. Again the old fault of flying too slowly left me floundering behind, unable to keep up. Part of the problem was also a lack of expertise at finding and centring thermals quickly so I didn't climb as well as Bob either. Too low, too slow. Good skills to practice more intensely whilst local soaring are flying at speed and centring thermals quickly. I aborted the task when I felt the day was running out on me and returned to Tooraweenah to cover 236km, but by staying up over the airfield for a little longer at least I got my five hours. I figured it was better to continue the discomfort for an extra hour than to have to do it all again! This season I decided to get serious about it. I asked Tom Gilbert the secret of successful cross-country flying and he said, "*Stay high, fly fast, don't turn.*" Simple really.

Tooraweenah was a washout in November because of rain and floods. In December I put in a couple of local flights of over four hours to convince myself I could stay up for the necessary time and then in January we joined the Temora camp. First day was local flying to get an idea of the area and then Bill Tugnet did a lead and follow of 168km with me to Grenfell and back. A flight post-mortem emphasising again the need to fly faster, not wasting time in poor lift and getting centred in thermals

reinforced the earlier messages. Two or three rather average days followed but on the last flying day I was there the temp trace and forecast both indicated a promising day.

I declared Temora-Quandialla-Moomboodool-Old Junee-Temora for a 300km task. As part of my preparation I also made up a little graph showing where I should be at the end of each hour if I was to be in a 55-70km/h speed band, which I thought was a realistic expectation. That way I'd know if I was falling behind schedule too much. I launched around 1300 hours, notched the barograph after release and after climbing to 8,000ft over Temora airfield and taking my first photo I set off. It was totally blue, which was a bit daunting, and there were no other gliders on this task, but there was reasonably good lift and I topped up only twice on my way in to Quandialla. Rounding the silo there I experienced considerable distances between thermals plus a strong crosswind, and things were starting to look a bit more difficult. I got down to 5,000ft a couple of times but I could see a band of cumulus moving eastwards towards me. It seemed that the day was cycling between different air masses. I decided to make a run to the nearest cumulus and was then rewarded with three great climbs to 10,000ft plus. This took me all the way to Moomboodool which I rounded at that height and, feeling full of confidence, I set off for Old Junee. I was halfway round and within my time expectations.

The band of cumulus that had been so helpful had almost passed through and it was being followed by increasingly thick high level cirrus. I had a good tailwind on this leg and was covering the ground at around 180km/h but losing height and not finding very good climbs. Five thermals were taken but I ended up at Old Junee silo at 6,500ft, which came down to 6,000ft by the time I'd had a couple of goes at taking my photographs. I dumped my water. It was here I made a poor quality decision that could have had far more serious consequences than it did. There was a very weak thermal at Old Junee giving only one to two knots, and hard to centre. I stayed in it whilst I calculated that 6,500ft would give me final glide for the remaining 46km to Temora, allowing for the airfield at 1,000ft and another 1,000ft for circuit and a six-knot headwind component. Then I set off on the final leg. I should have stayed to gain more height and increase my safety margin. It seemed that the cumulus in passing through had 'hoovered' all the lift off my track and the cirrus was now completely shadowing the ground, preventing reheating. I did not get a single climb on the way in to Temora and instead encountered quite a bit of sink. It wasn't until I was about 10km out that I

realised I was lower than I should have been. Large cumulus over Temora encouraged me to think that I would soon encounter lift and so I pressed on. This was the second poor quality decision – I should have outlanded while I still had the height to do so safely, but the airfield was now temptingly near. The lift did not even-tuate and although I finally made it into the airfield I was perilously low and fast running out of options. It would only have taken one more 'knock' and I would have had to land straight ahead into one of a number of stubble fields that I could see but had not been able to assess. I did eventually make the field with a straight in approach, but if anyone else had been landing at the time I did not have enough height to hold off or modify my approach. A recipe for disaster and an experience I'm keen not to repeat.

So, after 121 flights and 160 hours I finally got my 300km distance flight at an average speed of 64km/h, but I also lost quite a few hours sleep in the next few days as I lay awake in the early hours of the morning reliving the last couple of kilometres and sweating on what could have happened. I know I've had a let off, but I'm also looking forward now to my next 300. The barrier is broken! ✂

Red Wine

EMILIS PRELGAUSKAS

One can bemoan the good old days when the medium of exchange was the 'slab'. Today the obligatory bottle of red wine seems to have taken that role. My last year has been punctuated by such presents – in my personal life; at work after conference presentations (if you think my gliding commentator role is confronting, contemplate individuals in the audience walking out as a result of some of the things I have to say in my professional capacities); and the odd gliding hand out at contest venues both in flying and support roles.

So while I may have had a view about gliding scoring as a pilot amongst others, it is through exposure as contest director that I come into head to head conflict with the scoring system.

As a pilot I may be frustrated by the delay in getting scores out, and the incomprehensible but intuitively erratic results the scoring system produces. As contest director I get to see the scoring system at work. Pilot A flies between

turnpoints 80km apart and is credited with 0.5km. Pilot B flies between turnpoints 16km apart and gets 111.2km credited. And then gets 111.2km credited on successive legs of different length. Pilots are refused turnpoint verification because the scoring system refuses to recognise one turnpoint throughout the contest (it is believed to have moved to the northern hemisphere for its summer holidays). The 'save' function reintroduces previous old incorrect screen information after it has been corrected on screen.

As a result the print-outs are goobledygook and the contest format looks stupid. The pilots' confidence in the contest is dismantled. Arguments between pilots and organisation are created. Disagreement is introduced to awards dinners. The social cost of the scoring system is so great as to make the scoring system a contributing reason to disinterest in gliding racing amongst glider pilots. ✂

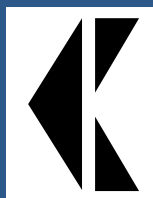


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Blaze

► With regard to my last letter (January issue) where I said I had collected many parachute packing manuals over the last few years... how things change.

On 1 January the APF Office was burned down and I lost most of my records including all my packing manuals. This is a request for any good copies of HG/PG reserve packing manuals (which I promise to return) in order to build up my records again. If you have something you think may be useful please give me a call on 02 6281 6830 or just send it to:

Attention: Chappo, APF, PO Box 144,
Deakin ACT 2600

It was quite a blaze – by the time you read this I should have some pictures on our website at [www.apf.asn.au].

John Chapman, APF Technical Officer

Inevitability

► Dear Ed,

As a professional safety consultant I was taken aback with the assertion in Graham Sutherland's letter (February) in which he stated: *"There will always be accidents and there will always be fatalities. We should face that fact, and not over react. More and stricter regulations follow a law of diminishing returns."*

That last sentence I could agree with, having over many years in industrial safety seen how ineffective the well-meaning but reactive law making and regulatory approach has been in improving safety.

But acceptance of the inevitability of incidents, injury and (God forbid!) fatalities is the antithesis of good safety practice. Post-incident investigation, if done properly, **always** brings to light a number of causes (rarely just one) and once those causes are identified it almost always follows that there is, or was, something that could have been done to prevent the occurrence. Certainly the corrective action often taken to prevent a recurrence is a clear indication that there WAS something that could have been done in the first place – we just weren't smart enough or insightful enough, or we were complacent and didn't think it would happen.

Any incident that involves unplanned events and/or outcomes represents a failure, and it usually comes back to both systems and behaviours (in which category I include decisionmaking). The three key components of a safe operation are the equipment being in good, safe condition, the systems (including training and supervision as well as standards, procedures and discipline) are sound and effective, and the behaviours, decisions and actions of the participants are appropriate and they use the equipment and systems as intended.

Graham makes mention of decisionmaking and training as factors that can lower the probability of incidents, so we are not on opposite sides of this argument, but I draw issue with the implied

philosophy that there is some point at which we shrug our shoulders and "accept" that these things will happen anyway.

Maybe (I hope) he didn't mean it to read that way. Leigh Youdale

Flyer-friendly Canungra

► I'd like to use your pages to say thank you to the friendly flyers of Canungra. Recently I was on a 10 day work-related course there. On the final weekend I had a few evening hours to spend; the weather was perfect but I was without transport. Speculatively, I was dropped off in town, where the local school fixed me up with a radio and a lift out to a site with a student (who went out of his way to deliver me). There I chatted to two pilots who were just landing to finish for the day. They promptly packed me into their vehicle, took me to the top of 'Flying Fox', briefed me and helped me off. I ridged soared happily for 45 minutes and was then delivered back to Canungra (after a hospitality stop en-route).

Thank you friendly Canungra and especially Dave (Pearson) and Matt (Cooper)!

Charles Knight

Membership numbers

► Over recent years I have heard much anecdotal evidence about a 'decrease' in the number of people being involved with gliding. What are the facts? Can the GFA provide us with the numbers of registered GFA members for each of the past 10 years, both in overall numbers and, if possible, by individual clubs?

It would also be interesting to know how many female flying members we have had over that period. I am interested to know if there are any trends in membership numbers and, if there is a decline, are there any clubs that are 'bucking' the trend. If indeed there is a crisis in GFA membership, I would like to ask what plans the GFA Council has to address the problem at both a National and State level.

Bob Donaldson

January Issue

► It was great to see my article 'A Day Out For Sue' in the January 2001 edition of Skysailor, but the lovely Sue has pointed out one minor problem – how can the photo credits be given to 'Dave Tonks' when Dave Tonks is in both photos! Fair enough – so, for the record, the two photos in the article were taken by my lovely wife (and Trainee Paraglider Support Team Member).

On the subject of the letter titled 'Hanging Around' in the same edition, I too was the victim of an unfriendly tree during one of my famous launches (just ask Phil Hystek!), but luckily I was only suspended about a metre from the ground. There was some luck on my side at the time because I happened to be accompanied by a bloke who must surely be part koala, the famous tree-climbing Andy Abbott. And yes, of course, the standard cartoon appeared magically in

the back of his trusty 4WD five minutes after I ascertained his taste for the amber fluid!

As far as Chow is concerned, considering his reluctance to conform to long established tradition, he should be hoping he doesn't end up in another tree. If, perchance, he does, methinks it will be a long wait before help arrives.

Dave Tonks

Maths Lesson

► There is nothing wrong with the various answers for Reynolds Number found by your correspondent, 'Mathematically Challenged' (January 2001 AG/SS, p.30). The variations can be explained by the slight inaccuracies involved when applying factors to convert Imperial units to Metric or Systeme Internationale. There is also some variation when finding figures for atmospheric density and viscosity. Different tables give slightly different figures, rounded off to some extent according to different conventions.

The printer (or email) probably had difficulties with negative powers and indexes. The figure printed in AG/SS as 1.789 should be 0.00001789 (1.789 multiplied by 10 to the power of minus 5). The coefficient of viscosity under standard conventional sea level conditions is often quoted as 0.0000178 kg/m sec, and in Imperial as 0.000003719 slugs/ft sec. If these figures are multiplied by the accepted conversion factors, the results differ slightly but not, in practice, enough to matter. The same kind of thing applies to the rest of the arithmetic.

Martin Simons

Board Replacements

► I write to let people know how undemocratically our HGFA sometimes operates. As you all know, Jeremy Torr and Mark Plenderleith both resigned from the Board because they felt that they were beating their heads against a brick wall. These two were elected on mandates to effect change within the HGFA in the direction of making the HGFA upper echelon more of a servant of the members and less of an old boys' club with it's own agenda. They felt that the other Board members were preventing them making any progress whatsoever in making the HGFA less dictatorial and more responsive to the members. We don't agree with Mark and Jeremy's decisions to quit, but can understand their frustration, and we respect their decision.

Now the undemocratic bit starts. The Board has decided to replace Mark and Jeremy with Keith Lush and Rob Woodward who have previously been Board members and were resoundingly dumped by the members in the last election. The Board is elected as the nine candidates who get the greatest number of votes. Now if anyone resigns the logical and democratic thing to do is to bring in the next on the list. Instead what has happened is they have brought in two people who were at the bottom of the list. Two people the members definitely didn't want.

There are also all sorts of other undercurrents in this issue. Keith Lush by his letter in July Skysailor proved himself to be the exact opposite of all that Mark and Jeremy stood for. Are the Board trying to reinforce the status quo? Also, allegations were made against one of the next on the list, that he had had a conviction for marihuana. If such things are to be used to prevent people becoming Board members then it should be made known to all, before people stand for election. The reasoning that it is better to bring in previously experienced Board members part way through the Board's term could be seen as just an excuse to get Board members that won't rock the boat.

Come on guys. Let's have some democracy. We don't elect you to entrench your own position.

It is possible that in future, back room deals will be done more secretly so that undemocratic activity is not exposed. Some people believe that it is best if the members are not aware of the real goings on behind the scenes. Those people should ask themselves this question: If you feel that the members may not like what you are doing, such that it needs to be done in private, how can you purport to represent the members who voted for you or who pay your salary.

In the interests of openness and accountability here is who voted for democracy and who didn't:

For Democracy: Rohan Holtkamp, Phil Pritchard, Rohan Grant. For the Board electing their own members: John Reynoldson, Brian Webb, Bill Moyes, Mike Zupanc.

Hopefully by the time this edition of Skysailor arrives in your mailbox, some democracy will have prevailed. In any case people should be aware of what goes on within our HGFA.

**Graham Sutherland, Vice-President
Conondale Cross Country Flyers Club**

► Hi Graham,
Thanks for your letter. The Board regret Mark and Jeremy resigning, they were major contributors. When the Board replaces resignees it is bound by the guidelines of the Constitution of the HGFA. The Constitution allows the Board to appoint members in the event of casual vacancies occurring.

The Board have elected to invite Rob Woodward and Keith Lush to rejoin the Board. We believe they represent the best value to the HGFA for the 12 months remaining to this Board. They are across the majority of the current issues of the HGFA. Keith and Rob are particularly skilled in two high priority issues, safety and sites. Rob has a wealth of experience in land management; Keith has been pioneering the Airmanship project in WA. They also help to balance a lack of representation from SA and WA. We are confident Rob and Keith will work hard and honestly towards the goals of the HGFA.

Perhaps of interest is that it is largely the new Board members who have voted for Rob and Keith rather than the old "entrenched" members.

Next October Skysailor will be calling for nominations for the new Board; perhaps you would consider standing, your enthusiasm would be welcome.

Regards, Brian, HGFA President



User-friendly Comp Towing?

► Having spent a week at Bright between Christmas and New Year, followed by keeping track of the competitions at Hay and Forbes via the web, there are a couple of connected issues that I'd just like to raise as "items for discussion." They are:

1. There's little doubt that towing (aerotowing in particular) offers many advantages to hill launching. This is even more crucial for competitions where you obviously want to avoid "no fly days" because the wind is over the back at 10+kt.
2. It seems that conditions (on the ground) at both Hay and Forbes were very unpleasant at times, especially for officials, drivers, etc who couldn't (as pilots eventually could) get up into cooler air.
3. Use of large paddocks some way out of town means there are no facilities, no incentive for the general public to go and watch (and maybe get into the sport), plus the generally rough nature of such paddocks is tough on the tugs or tow-vehicles.

My reference to flying in the Bright area is in relation to the fact that there are two pretty reasonable grass airstrips (Porepunkah and Mt Beauty) which I imagine could readily be used by trikes/Dragonflies or winches, although not for car towing. Now, I realise that valley and mountain flying may not be as good for competitions as the flat lands, but what's wrong with talking to some of the gliding clubs that have excellent facilities in many of the best soaring locations all over the country? I'm sure they would appreciate the revenue that a competition would bring to their club and/or local community. The other thing about using "proper" airstrips is that there are hang gliding/trike schools in at least a few locations with airstrips, who (I imagine) would be happy to increase their revenue by providing towing (eg: Lee Scott, Steve Ruffels, Rohan Holtkamp, Airborne in the Newcastle area, etc).

I would be interested to hear from competition pilots or some of the competitions committee people about whether use of gliding facilities (or non-gliding airstrips) has been considered. I'd also be interested in the view of GFA members as to whether they would welcome hang gliding activities at their clubs. (Who knows, they may get converts to sailplanes!)

The other benefit to the hang gliding community may be more accessibility for recreational pilots, especially during the cooler months, to towing from more "family friendly" locations.

Martyn Yeomans

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Positions Vacant

Club Development Officers Club Development Officers (Queensland, Victoria, SA/WA regions)

The HGFA is seeking pilots interested in short term, part-time contracts to support the Active Australia initiative working under the guidance of the General Manager and National Development Officer. The successful applicants need to demonstrate skills in:

- Sports administration and development
- Club management and development
- Sound written and oral communications
- General awareness of the sports aviation environment

Applicants must be motivated, goal oriented and be able to work well under distance arrangements, providing support to the clubs in your area.

Applications complete with an up to date resume and references should be forwarded to the HGFA General Manager, PO Box 71 Hallidays Point NSW 2430 to be received no later than 5pm Friday, 16 March.

General Manager,
Hang Gliding Federation of Australia
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Mobile: 0418 657419
Postal address: PO Box 71,
Hallidays Point NSW 2430 Australia.

Safety Notice: Advance Epsilon 3 Big Ears Handles

The DHV certified factory Big Ears Kit (comprised of a handle, line and O-ring) used on the Epsilon 3 has recently presented a problem when pilots do not use it according to the manufacturer's specific instructions in the owners manual.

The damage is due to pulling down on the handles to instigate the big ears as opposed to pulling out and then holding down (same as when you do big ears by hand). This creates great frictional forces on the line as it passes through the O-ring at a very acute angle. In addition to this, pulling down can wear the line loop at the link end. This latter issue is rare, but is common to all gliders from all manufacturers if pilots have A line tension down on the links and is from incorrect performance of the big ears manoeuvre. Handles naturally result in this occurring more often as we have discovered.

All Epsilon 3 owners in Australia have been contacted directly by the importer and instructed to remove the handles and perform big ears in the old way, ie by hand.

For more information contact the Australian importer for Advance paragliders: Godfrey Wenness, Parafunalia, ph: 02 6785 6545 or email <skygodfrey@aol.com>.

HGFA Fly-in and Awards Night

28-29 April, Canberra Area

All HGFA pilots welcome, bring your wing (and your friends) and have some fun.

Awards Night in Canberra City

More details next month, or phone the HGFA office on (02) 6947 2888.

National Instructor Conference

23-26 April inclusive, Canberra City

All HGFA instructors welcome.

Contact Craig Worth for details.

Please Note: Newcastle Club has very sensitive coastal sites!

All visiting pilots MUST contact one of the numbers below before flying at the coast in Newcastle:

President: Tascha McLellan 02 4927 8867 (h), 0428 278 867 (mob), 4 Helen St., Merewether.

Senior Safety Officer/Instructor: Jason Turner 02 4963 7070 (h), 0419 997 196 (mob), Safety Officer: Scott Alder 02 4951 4581 (h).

The 'Come and Get It' Trophy

Finally, after a long wait, the "Come and Get It" trophy has flown back to Benalla, courtesy of Ryan Romeike, who with his father Karl as passenger, flew in rather rough conditions to the Trike Christmas Party at Tyabb to claim the trophy. (And wouldn't you know it, as most members were standing around complaining about the weather being too rough to fly in, in flew Ryan's trike and of course, a great landing.) Congratulations Ryan. We hope you and Karl enjoyed your trip "down south."

Before any intending trikers fly to Benalla for the trophy, please ring Tony or Therese Dennis on 0418 574 068 to confirm that the trophy is at their hangar.

Club News

The Dynasoarers HG Club, VIC

The AGM was held at Peter and Vicky Hannah's house at Bellbrae on 1 December. Darren Brown was elected President, Tony Hughes – Secretary, Greg Holt – Treasurer, Rob Van Der Klooster – Senior Safety Officer and Geoff Coombs – Publicity Officer.

Annual awards given were: longest duration flight: Mark Wiley and Pete Hanah for a punishing five-and-a-half hours at Stanwell Park. Longest distance flown: Geoff Coombs, 272km towing at Birchip. Darren Brown got awards for best crash and most hours (he says it's just the law of averages!). Sally Beck won the hang gliding widow's award. Dean Schmitcke and Tony Doolan took out the encouragement award. Warwick Spratt got the 'No Shit There I Was Landing' for his effort in getting down between the Great Ocean Road sign and the hill behind it. And finally Vicki Hannah won an award for not having a baby, crashing her car or breaking her toe before the AGM. The things people will do to avoid a meeting!

The fly-in organised by Mike Escort to Birchip from 2-10 December was a great success with many pilots flying personal bests. Mike Escort, Geoff Coombs, Greg Holt and Ben Kennedy all flew 100 miles to land south of Bendigo over a two day period. There were many other great flights over the nine days.

On one occasion Greg Holt and Geoff Coombs landed at Swan Hill and the rest of the group met them there for a great night at one of the local Chinese Restaurants. Tracey Sandstrom got out of the tow paddock two days running (she had never got out of the paddock before) and flew 14km for her first cross-country flight. Pete Greenhill, Curtis Greenwood, Geoff Tozer, Darek Czernecki and Noel Bear all had memorable flights. Pete Greenhill will go close to winning next year's best crash award after his amazing effort in the tow paddock on the last day. Luckily for us (not him) we got it on video in living colour, so we could play it over and over... and over for him that night! Thanks go to a local farmer and his wife, Stan and Marlene Fraser, for allowing us to use their unoccupied farm house, the Birchip Hilton. It really did make for a relaxing time with videos every night (when we got back early enough!) and late sleep-ins. All for a minimal fee. The only thing missing was air conditioning in the tow paddock! Greg Holt did a great job helping to fix Stan's header one morning (obviously doesn't know how to sleep in!). It was a perfect time to have the fly-in, with slightly cooler temperatures in the tow paddock but still very good flying conditions. After the success of this year, I'm sure it will become a regular club event.

Geoff Coombs

Hunter Skysailors, NSW

This club was formed late last year (November 2000) and has seen keen interest from all over the state of NSW and beyond. The club had its inaugural meeting which Craig worth attended to help us nut out the procedures surrounding such a club.

Since that first meeting our club has been doing some groundwork on a number of sites. We are not sure when these sites will be ready to fly, as a lot of work is needed and ongoing as far as property relationships and site preparation...

Our meetings are held on the last Tuesday of the month at Hexham Bowling Club unless a change is notified. Please feel free to contact us: John Clifford (President), 0438 302033, <johnpclifford@aol.com.au> Neil Bright (Sec/Trs), 0412 689067, <enzobright@bigpond.com>

Neil Bright

Eastern Hang Gliding Club, VIC

Well, the flying and social activities are in full swing. The club had over a third of its members flying in the Bright area over the Christmas/New Year period. Congratulations to those that performed personal bests. Many were obtained by some Eastern Hang Gliding Club Gaggles Flying. Other smaller groups camped on the West or Central Coasts and did some

coastal flying or competed in the Australian Nationals at Hay.

Locally, Mt Donna Buang has offered some great thermal flying in the Yarra Valley and a lot of hours have been flown at Flinders on the coast. Three Sisters, our local novice site, has also come in for some mid-summer attention with XC flights to the local Glenburn Pub.

The club has been throwing around some ideas to better serve its membership. Considerable interest has been shown in the club's progress with further concepts to assist in our novice and general flying support schemes.

As well as the local flying that is guaranteed to be done over the coming months there are a number of other flying trips being organised by members. These include further trips to Bright, competitions and other camping and free flying trips to the Western district. Other activities include an upcoming first aid course for club members as well as our increasingly popular monthly meeting at our new venue.

New members are always welcome; please refer to the club contact list within this or previous issues. Club contacts and further information, including our Frequent Flyer list, are available on our website at [www.vhpa.org.au/ehgc/] so take a look. Our Executive or Frequent Flyers will happily involve you in our club activities. Please also remember that all pilots are most welcome to come along to our monthly meeting to chat and check out our activities first hand.

Until next month, enjoy plenty of safe flying.

Andrew Medew

Site News: Shellies Beach, Albany, WA

Over the Christmas/New Year break persons unknown took it upon themselves to chop bushes around launch at Shellies, and in doing so jeopardised our good relationship with CALM and put the use of the site at risk. Bushes at Shellies, in particular around the launch, can only be removed/chopped by CALM officers (Dept of Conservation and Land Management). Anyone else (take note all pilots and associates) damaging flora/fauna within the park (this includes back beach, etc) will face harsh disciplinary action by CALM and/or HGAWA. CALM are willing to cooperate with any HGAWA requests to remove obstructive flora/fauna (as they have in the past) where such obstructions create a safety problem for our operations.

It is up to all pilots to ensure that unlawful removal of flora/fauna does not happen again by reminding anyone with such intentions of the above information, and to notify the safety officer on site about problem bushes for CALM officers to remove. Rick Williams

Australian Paragliding Centre

The Australian Paragliding Centre has formally strengthened its ties with Air Samoens France. Air Samoens is the oldest and most respected paragliding school in France and Australian

Paragliding Centre has just negotiated and agreed on a sister school arrangement allowing instructors of both schools to work between the two countries. This agreement has also resulted in organised tours between Australia and France for pilots who prefer to fly under the supervision of an instructor with tremendous amounts of local knowledge.

At the moment, Australian Paragliding Centre is hosting Ali Gali from Air Samoens.

Ali is an instructor of 25 years flying experience. He is a glider designer and test pilot and in his spare time he flies commercial tandems. Having Ali working our summer season in Australia is a great opportunity, one which was made possible by joining forces with Air Samoens.

As a result of this agreement, Australian Paragliding Centre will be running a 21 day trip to France in August/September 2001, utilising the expertise of Air Samoens as well as CFI Peter Bowyer.

Peter Bowyer

ACT HG and PG Association

Canberra Club T-shirts are selling fast, and at this rate we may even have to consider a re-print. If you don't yet have your T-shirt, then you'd better hurry. T-shirts are available from the club meetings for just \$25 each. Sizes M to XXL are available.

ACTHPA recently received a grant for pilot development from the ACT Bureau of Sport and Recreation. The club has decided to run a training clinic for five hang glider pilots and five paraglider pilots over the Easter weekend, providing these pilots with the opportunity to increase their skill level under supervision. If you are a member of the ACTHPA and you are interested in the selection criteria, please contact the Club Secretary. It is thought that this is the first time that a Hang and Paragliding State Association has been able to obtain such funding for club level activities of this nature. Congratulations to the funding team who logged it out over several bottles of red to complete the application.

Belinda Head

WA Paragliding

We've had a mixed summer in WA so far. Some very good flights, but too many accidents. Bernie managed a personal best of 37km in November before injuring his back on the coast at Christmas. I set a new state record flying 113km in November, then was lucky to escape unscathed after hitting a powerline. A number of other pilots have had some really good flights, particularly from Mt Bakewell, but in other incidents

a student sustained serious leg injuries with a downwind landing, and a new novice pilot managed to do serious damage to his ankle just ground-handling when his foot caught under a rock. Another pilot was hospitalised with minor injuries after 360'ing into the hillside on the coast.

There seems to have been a noticeable drop in enthusiasm for flying which is understandable, but hopefully the long term effect will be people flying a

This may leave you speechless!



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little more safely and thinking more about conditions. Most of these accidents can be avoided with a bit of effort. I know I've increased my safety margins considerably when it comes to scratching down low.

The tow season will be starting as soon as the crops come off the paddocks, and the club has a new tow vehicle thanks to Gordon McCabe's latest yellow sticker.

Hope to see you all in the skies and not in the hospitals.

Mike Dufty

WA Hill Flyers

January ended up being unexpectedly mild compared to the normal heat wave Perth usually experiences at this time of year, but this hasn't dampened the thermals.

Some good flights off Bakewell towards the end of January saw Jason Kath and myself managing the difficult headwind task of Mt Brown out and return. A lot of newcomers were also introduced to the magnificent flying off Bakewell.

Our top landable "Gin Gin" site has proved reliable as ever, coming on in the summer sea-breeze regularly as clockwork for many late afternoon flights and lots of fun flying.

A big turn up of pilots down at Shellies this

year and a couple of good flying days amongst the festivities were reported. Unfortunately there were also a number of accidents too, which are being addressed by the WA safety officer group in an effort to cut down on the large number of incidents. It is vitally important that we manage our sites in the safest way we can, otherwise we risk losing sites or something worse, maybe the death or injury of pilot buddies. Expect some tightening up of site rules over the coming year in regard to pilot proficiency for particular sites and high visibility of acts of safety to be rewarded.

A new site has been identified in the Stirling Ranges north of Albany, which is being developed for the coming winter season of northerlies (further update next Skysailor).

Fly safe, Rick Williams

FAI News

New FAI Record Claims

Sub-class 0-3 (Paragliders) – General

Claim number 6785:

Type of record: Straight distance to declared goal

Course/location: Prieska (RSA)

Performance: 260km Pilot: Jacques Coetzee (RSA)

Paraglider: Gin Boomerang Date: 23/12/2000

Current record: 250.2km (18/12/94, A.F. Louw, RSA)

Claim number 6786:

Type of record: Straight distance to declared goal

Course/location: Prieska (RSA)

Performance: 265km Pilot: Beau Basson (RSA)

Paraglider: Apco Astra Date: 23/12/2000

Current record: 250.2km (18/12/94, A.F. Louw, RSA)

The details shown above are provisional. When all the evidence required has been received and checked, the exact figures will be established and the record ratified (if appropriate).

FAI World Record Ratifications

Sub-class 0-2 (HG with a rigid primary structure/movable control surface(s)) – General

Claim number 6668:

Type of record: Straight distance

Course/location: Zapata, TX (USA)

Performance: 559.7km Pilot: Davis Straub (USA)

Hang glider: Atos Class II Date: 10/8/2000

Previous record: 502.8km (20/7/00, D.H. Sharp, USA)

Claim number 6685:

Type of record: Speed over a 100km triangle

Course/location: Hearne, TX (USA)

Performance: 34.47km/h Pilot: Davis Straub (USA)

Hang glider: Atos Class II Date: 16/8/2000

Previous record: 25.57km/h (8/7/96, Stewart

Midwinter, CAN)

Sub-class 0-3 (Paragliders) – Multiplace

Claim number 6672:

Type of record: Speed over a 25km triangle

Course/location: Col de la Forclaz, Annecy (France)

Performance: 24.31km/h

Pilot: Mark Hayman (UK) Crew: Nicky Watts

Paraglider: Apco Futura 42 Tandem

Date: 14/8/2000

Previous record: 19.42km/h (30/7/95, G. Florit, France)

FAI congratulates the pilots on their splendid achievements.



FUNNY CAPTION COMPETITION



If you have a witty mind

What funny caption can you find?

Send to me your words with haste

If HGFA caps are to your taste!

Send your entries to:

Richard Lockhart

c/o Blackheath Post Office, Blackheath NSW 2785

or email <skysail@ozemail.com.au>

by 25th March.

The winner (announced in the April issue) will receive a HGFA cap.



Those of you paying attention would have noticed that there was no Funny Caption Competition last month, and no winner to the December comp announced. This was because of, respectively, a lack of photos and entries being sent in. If you would like this feature to continue, please send in amusing photos.

Thank you to those who sent in entries for the January comp. The winner is: "Still unable to crack 100km, Santa reluctantly concedes the world's children might be disappointed this year." – Tony White

Paragliding 'Base-Jumping' in India



DAVID HUMPHREY

For the first time in my life I was going on an organised tour — India bound with Celia and Tony and a couple of good friends also from the West.

We had a good start by not being charged for excess baggage. Also, our gear arriving in India on the same plane was a bonus. Then the fun began.

John from Ace Aviation, our tour company, met us when we arrived. The madness, the poverty, the pollution — it was all there as expected. A night sleeper train that was an experience in itself took us to Mysore. Then we had a long, mad taxi ride on some wonderful roads that were due for repair about twenty years ago. We finally arrived in Udagandalam (Ooty), a large town at 6,000 ft in the district of Tamil Nadu.

We went straight to the very nice Sullivan Hotel, a bit over the top for the type of holiday I thought we were on. It turned out to be one of the better things on the trip. The next day, after a little over an hour's ride in a rough jeep, we were on a site called Hulhatti. We were about 2,000 ft above the valley, and after a bit of parawaiting for the clouds to move away it was time to go. Directing us to a landing area in the middle of the jungle from 2,000 ft was not the greatest way to start. There was just enough wind to launch, so I went wind dummy. There was not the lift I had hoped for at launch, so I headed out into the valley and

was rewarded with some small thermals that got me to a small village and a better choice of landing areas. Celia and Tony got off okay and played in some light lift for a while, but soon joined me on the ground. This was a big event for the locals and half the village turned out just to touch and look at us.

The next day our group made four when another John (from the UK) joined us. He had believed the Ace Aviation website as well. I had asked John (from Ace) by email what was planned if the weather was crap. *"Nothing, as I expect the weather to be great,"* was the reply. Well, as a typhoon crossed the coast and filled the local reservoirs to capacity we made use of the hotel gym and improved our table tennis for the next few days.

Finally we got to go back to the hill to wait for the clouds to move on. When that happened a bit of paragliding 'base-jumping' went on to get us off the hill, as there was no wind.

The next day we went down into the valley and stayed at a place called the Jungle Retreat. A late afternoon hike revealed paw prints along

▶ Droop



▲▲▲ The jungle retreat
▲▲ Locals helping out
▲ Waiting for the clouds to clear

the river, hence proving that we were in fact flying over real tiger country. A nearby wedding that night insured that we didn't over sleep, and for some not sleep at all that night.

The next day a short three hour ride took us to Munrupellu, 3,000 ft above the Jungle Retreat and a great view. But it was more parawaiting than base-jumping, because still no wind. I went last this time to make sure no one



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or Brett Cook (Byron Lennox

Paragliding Centre) 02 6687 6907

or Alex Genz at GTL in SA on 0438 385 485

or Mark Taylor in WA on 08 9284 1106

PHOTOS:
COURTESY DAVE HUMPHREY



Finally off the ground

chickened out. We were the first paragliders ever off this site, and maybe the last as the local rangers and police were waiting when we landed to see our permits for flying over the jungle. After a lot of talking and head wobbling between the police and the owners of the Jungle Retreat, we kept our gliders and stayed out of jail. As you will notice on the website, Ace Aviation takes care of all permits and permission to fly.

The next day involved more waiting while John sorted the permits out. The following day we went in the other direction to a site called Droog on the other side of the mountains. A three hour ride then a 40 minute hike through acres of tea plantations got us to 5,000ft above another valley obscured by cloud. After lunch we did some more base-jumping. We were now becoming proficient at alpine launching. On this flight we chose our own landing areas. Tony made it to the Fun Park Resort and hung out with the management drinking tea. Paul found the only tree in an open field but sustained no damage and was soon being entertained by the locals. Celia chose the centre of a boarding school and will be talked about for years to come as the tall lady from the sky. I played in some nice bouncy air for a while before joining Celia and the celebrity status. They laid on a car for us as Paul turned up on the back of a bike. We then found Tony and waited a couple of hours for John to pick us up. Then another three hours back to the hotel.

The next couple of days were more waiting as the permit thing was still going on. Our last day came, and still no permits, so we all went down to the cop shop to lend our support. Midday had come and gone and still no joy. All they really wanted was some money slipped into someone's pocket. John's local partner finally did the deed and we were on our way. We had missed some really good weather days and our final day was just a bomb off the back at Hulhatti. So more mad taxi rides, another train ride, some more airline food and we were home with no excess baggage charges and no damage to bodies or wings.

Due to the company I was with I had a damn good holiday. Sadly the flying was only so so. Maybe we were unlucky, but check the fine print if you go with Ace.

When You Don't Fly

OLIVER RENNERT

It had been a long time coming, and there were, dotted about the Northern Rivers area, quite a few flyers who had been planning to go. The occasion was the Grafton Muster, the final party of the Jacaranda Festival, held annually over the last weekend in October.

I was well prepared. Everything was packed for overnight camping under the wing and I was looking forward to the coastal cruising as well as the fly-in. No doubt the others – Graeme, Gary, Grant and a motley crew of other ultralight and trike pilots – felt the same. The evening news the night before had promised “a fine day”. The aircraft was ready to go, and all that was needed was an early start, a sharp flight plan for the exercise, and a clear, calm day.

The first hint of trouble appeared, ever so subtly, at 4am. Still half asleep, I heard the wind-driven extractor fan on the roof kick in on a sudden, small gust of air. Then it wound down and stopped. A little later it happened again. I, however, went back to sleep.

As dawn rose on a clear blue morning the high treetops occasionally stirred, but calm prevailed. Nothing to worry about, I thought to myself as I prepared en-route sandwiches. The weather fax showed some headwinds, but nothing unmanageable. The trip would be somewhat slower, that was all. However, I did notice some signs of stirring air during the drive to the airfield. Flags and small branches lazily came to life here and there.

Later, out at the field, I met up with Graeme John, who had managed to give himself time off from his work for the Grafton trip and was keen to go. I joined him in the shade of the hangar doors, and we both stood casting a wary eye to the south-west, the direction we



Artist: Oliver Rennert

would head into, and off to the right of which, according to the weather fax, sat a big high.

By now, big, regular gusts of wind bashed the hapless yellow windsock like a training boxer's fists. They came out of a sky the colour of uncompromising blue. The big high over the south-western horizon was gearing up to throw a series of increasingly large and longer lasting punches of fat air our way. We looked at each other. We seemed to read each other's mind but didn't yet want to rip to pieces the hope of still flying away by putting words to a reality that had begun to unfold around us with mounting clarity. This would now be one very long, rough and tiring trip; one which, after we came around to admitting it to ourselves, would be neither desirable or safe to carry out.

But we weren't going to give up on our hope of flying so readily. *"Let's see how it is in an hour. It might actually die down a bit. Should swing around to the south-east, you know,"* Graeme muttered. *"Yeah,"* I said, *"perhaps you'd gain a couple of knots to your 25 kt ground speed!"* *"25 kt! That'd be right!"* Graeme laughed, and then proceeded to tell me stories of previous Grafton Muster flights which, as far as he could remember, always took place in crappy weather. You spent ages getting there, and, like it or not, the wind swung against you overnight, so you then spent more ages getting home. This led to another story about almost running out of fuel battling away into strong headwinds. And yet more flying stories from his vast flying experience followed, to which I occasionally added an anecdote or two of my own, drawn from my small but growing stock of moments in aviation.

Casting one last for-the-moment look to the south-west, Graeme stumbled into the dark March 2001

back of the hangar to put the kettle on. He came back out with a mug of tea just as an old Aero Commander lumbered into the sky with a load of skydivers. It was a noisy, labouring take-off without grace or power of purpose. Rather, it resembled more the heavy atmosphere of a tired commuter dragging himself off to work to make another dollar.

"I don't understand why they get this thing to work in here. Nobody likes it: it makes a huge racket, the skydivers don't like jumping from it, and anyway, you can haul as many people as this banger takes in a C 182!" Graeme grumbled, waving his mug in the general direction in which the Aero Commander had disappeared. Several bystanders, who had materialised in the meantime, murmured agreement. As did I. Not because we all had a thorough understanding of the technicalities involved in the issue, or seriously wanted to criticise the aircraft and its operators, but because agreement with the sentiment expressed seemed to fit our scene so well: here we were, standing around, thwarted in our planned endeavour while a big, noisy twin staggered into the sky in front of us. An aircraft which, in all our homage to situational decency, poetry and cozily opinionated justice, just shouldn't have!

Meanwhile, the southern sky had begun to streak itself with cloud. Little orographic slivers at first, then small, fierce mushrooms grew. The full impossibility of our plan to fly now evolved into visibility. In next to no time streaky, ragged, tendrilous plumes and raw, exploding clouds like dragon heads began to hurl themselves in our direction. The wind had started to howl, and the large hangar doors behind us banged and shuddered. The whole hangar heaved and

groaned. Above, a battlefield of vapour started to proliferate in all directions out of the south. A war was being waged at several thousand feet up, seemingly silent, as the sounds on the ground were strangely out of sync with the raging imagery. There was only the strengthening roar of wind, the rush of the shaking trees and the booming, banging hangar doors.

All over the sky massive, boiling cumulus towers grew, were torn to shreds and reformed again to become huge, electric blue-shaded mountains, only to dissolve yet again in an endlessly rolling, accelerating

kaleidoscope of blue, sunlight and vapour.

"Nah, I don't think so." Graeme summed up the inevitable conclusion to the day's projected flying. We walked back into the hangar and I started to slowly unpack the gear from the aircraft, putting everything back into the kit-bag. Graeme, decision made not to fly, now had some time on his hands, and so did I. We got to more talking, after stepping back outside to watch the raging sky. He told me about his past, how life had shaped him, how he got to where he was now, what had mattered to him and how he had become involved in aviation. I told him how I had ended up here in Australia, doing the work I did. It was a friendly, companionable series of moments, unhurried, as we had no particular places to be. A rest stop where life seemed to take an unexpected deep breath, before exhaling again into some duty-bound stress. It was such a contrast to the violent cloudscapes above, our quiet conversation by the hangar doors.

Before long, though, it was time to go home. Figuring it wasn't worth hanging around an airfield when it wasn't flying weather, everyone had thought of elsewhere-things to do. We said good bye and went our separate ways. But as I left I didn't really feel sorry that the flight to the Grafton Muster, planned for so long, hadn't come off. Instead, I now had memories of half a day spent in some sort of genuine comradeship, of something valuable gained as we had stood around, chewing the fat. Looking back, maybe some best times in aviation can be had when you're not flying at all.





Budgeting without tears – Part 2

R SALTER AASA CPA

What we have done so far will give us “post mortem” information, useful for analysing the years’ performance, and helpful in setting next years budget. If we want to avoid unpleasant surprises, we need to exercise control long before the end of the period, particularly with regard to money. Depending on the nature of operations, you can plan weekly, monthly or quarterly – the shorter the period, the better the control, but more paperwork ! Let us set up a quarterly cashflow budget:

	Period 1	Period 2	Period 3	Period 4
Opening cash	\$5,000	\$10,100	\$9,500	\$14,600
Income:	\$17,500	\$17,500	\$17,500	\$17,500
Total available	\$22,500	\$27,600	\$27,000	\$32,100
Costs:				
Insurance		\$5,000		\$175
Licences, paperwork		\$400	\$600	
Incidentals	\$125	\$125	\$125	\$125
Batteries	\$50	\$50	\$25	\$25
Depreciation*	\$625	\$625	\$625	\$625
Aviation charges	\$300	\$200		
Fuel	\$6,875	\$6,875	\$6,875	\$6,875
Oil, grease	\$125	\$125	\$125	\$125
500 hourlies	\$600	\$1,200	\$600	\$600
One quarter of engine replacement*	\$1,875	\$1,875	\$1,875	\$1,875
Normal maintenance	\$1,250	\$1,250	\$1,250	\$1,250
Ropes, rings, etc.	\$125	\$125	\$125	\$125
Tyres	\$75	\$75	\$75	\$75
Radio costs and charges	\$200		\$100	
Other costs	\$175	\$175		
Total costs	\$12,400	\$18,100	\$12,400	\$11,875
Available next period	\$10,100	\$9,500	\$14,600	\$20,225

Note: The items marked with an asterisk are not strictly a cash outflow, but some managers like to place these amounts into a sinking fund. Treatment is at your discretion. Sooner or later you will have to find the money...

The best laid plans are likely to come adrift. We need to monitor the cashflow, so we use budget versus actual as before. You will notice that the timing of expenses makes a lot of difference to the cashflow. It has to be coordinated with the way income is generated, otherwise a perfectly sound operation can flounder on the way cash is generated. This is important for enterprises which obtain their revenue seasonally, but have expenses throughout the year, such as holiday resorts, ski lodges, etc. Gliding

Setting a Budget

This is can be more difficult than administering one. Remember we said that a plan has to come first, before you can put down numbers. We have to activate our crystal ball – not always easy!

Let us look first at expenses. There are three general methods (sometimes mixed) . The first one is known amongst accountants as the “10% method”. You look at last year’s budget and increase each item by what you think next year will bring in increased costs, inflation, etc. It is quick and straightforward, but not very accurate. The next method is a “decree” by the manager in charge, who says in effect: “This is what you have available to spend, end of story.” The third and last way is known as the “zero based budget”. It ignores what happened last year and carefully sets figures after studying all factors afresh. More work than the others, but likely to be far more accurate. Having dealt with the expenses, we turn our attention to planning income. Here we are in unknown territory. We know that we have to cover expenses and achieve a surplus if possible, but there are a lot of variables to contend with. Competition, achievable and realistic volume, keeping costs for members down, providing for the future, will all have to be considered. Volume generated

clubs too, generate more revenue in summer than they do in winter.

	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Opening cash	5,000	5,000	10,100	9,345	9,500	9,915	14,600	13,415
Income:	17,500	16,800	17,500	18,000	17,500	16,500	17,500	17,300
Total available	22,500	21,800	27,600	27,345	27,000	26,415	32,100	30,715
Costs:								
Insurance			5,000	5,225			175	200
Licences, paperwork			400	370	600	100		250
Incidentals	125	210	125	80	125		125	220
Batteries	50		50	110	25	60	25	50
Depreciation*	625	625	625	625	625	625	625	625
Aviation charges	300	400	200	150				
Fuel	6,875	6,800	6,875	7,300	6,875	7,900	6,875	6,700
Oil, grease	125	130	125	95	125	120	125	60
500 hourlies	600	625	1,200		600	630	600	595
One quarter of engine replacement*	1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875
Normal maintenance	1,250	1,350	1,250	1,250	1,250	1,450	1,250	1,600
Ropes, rings, etc.	125	100	125	50	125		125	70
Tyres	75	80	75		75	90	75	80
Radio costs								
and charges	200	210		100	100			20
Other costs	175	50	175	200		150		30
Total costs	12,400	12,455	18,100	17,430	12,400	13,000	11,875	12,375
Available next period	10,100	9,345	9,500	9,915	14,600	13,415	20,225	18,340

It looks like a lot of work, but there are a number of good computer programs which will do it for you, once you set up the budget. Having done that, you enter the actual receipts and expenses only. If you are a keen number cruncher, you can add columns for variances as well. Depreciation and engine replacement are sometimes omitted from the cashflow budget, as they are not amounts which have to be paid out until a later period. You should however keep in mind that they are real expenses, incurred as you go along – your aircraft and engine is wearing out each year, even if you do not have to pay for this at the time.

Sometimes, people will argue that aircraft go up in price with inflation at a rate greater than the depreciation applied, so that you need not worry about it. This is a fallacy – when the time comes to replace your asset, the next one has to be bought at the new price, which will have all the inflation in it and more.

will be influenced by pricing decisions, while volume will react on prices in turn. Where do we start? The best way is to begin with the break-even point, where costs and revenues balance. If you go back to our first example, you will remember that we planned on 3,500 launches p.a. with fixed costs at \$9,700 and variable costs at \$45,300. This works out at about \$12.95 variable cost per launch, while the fixed costs are not dependent on the number of launches. We can graph the situation:

The break even point can be calculated using fairly simple algebra. (Look up your old school books!). Obviously, total costs must equal total flights sold (in dollars) to break even. We can set up an equation to reflect this, where:

n = number of flights

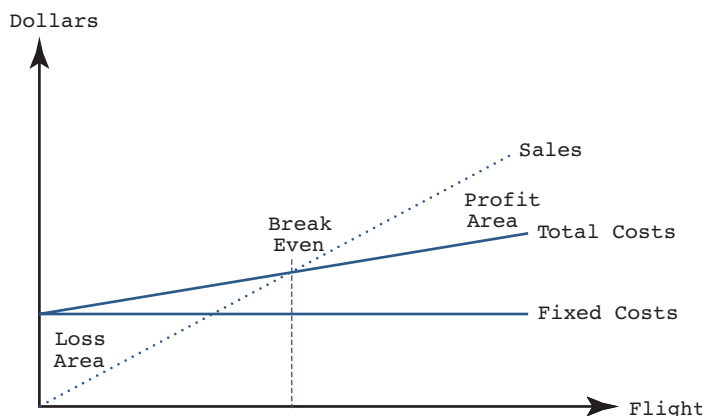
V = variable cost per flight

S = launch charge

F = amount of fixed costs in dollars.

To break even, $n \cdot S = F + n \cdot V$

We know F and V from our budgets. By setting n to some figure, you can solve the equation for S , to give you the required launch charge to break even, at your assumed number of launches. Alternately, you can assume a price S and solve for n . We budgeted for 3,500 launches. What



do we need to charge to break even? $n \cdot S = F + n \cdot V$, or $S = (F + n \cdot V) / n$, substitute our known quantities: $S = (9,700 + 3,500 \times \$12.95) / 3,500 = \$15.72$. If your assumption of 3,500 launches was reasonable, you will know what margin you can put on top of \$15.72, to achieve the required surplus.

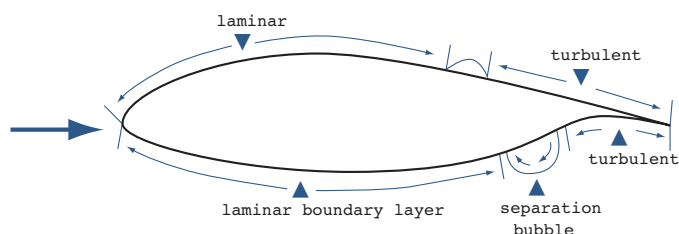
On the other hand, you may know that \$20 is an acceptable figure, but you are unsure whether you can sell enough launches. This time, we have to solve for n , which requires a little manipulation of the equation: $n \cdot S = F + n \cdot V$, or $n \cdot S - n \cdot V = F$, $n(S - V) = F$, finally $n = F / (S - V)$, $n = 9,700 / (20 - 12.95) = 1,376$ launches to break even. If you sell more launches, you will be in the black.

Finally, you watch things as they go along. Having done your homework, you know how many launches will be required to break even. A few weeks operation will establish a trend – let's say you are in luck and indications are the figure will be exceeded. You decide the club will achieve 4,000 launches rather than the planned 3,500. How will this affect your forecast?

No problem. You know that the fixed costs were covered by the time you reach the break even point of 1,376 launches, assuming the launch charge was set at \$20. Every launch over that figure will no longer incur fixed costs, only variable cost. Once your break even point is reached, each launch returns $20 - \$12.95$ or \$7.05. On the other hand, if you stay below the 1,376 figure, you will lose both the variable as well as the fixed cost component for each launch below the required figure. A careful appraisal of trends will give you a pretty good estimate of where you are heading – not to mention the prestige you will acquire for being able to foretell the future. ✂

Correction from February Issue:

The below drawing was printed incompletely in the February AG article, "Turbulators", page 30. For clarification here it is again:



▲ Figure 1 – "Turbulators" by Ron Baker

GFA Soaring Calendar

Victorian Soaring Association Incorporated

Amended Meeting Notice

22 March 2001 Executive meeting

19 April 2001 Executive meeting

To be held at 329 Dorcas Street, South Melbourne. These meetings will commence at 1930 and conclude at 2200 hours. ✂

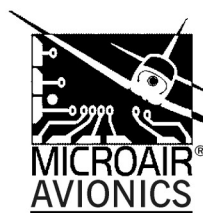
CASA approval – New Owners and New Products for Microair

In a first for the revised CASR Parts 21-35 regulations, the new owners of Microair Avionics Pty Ltd have received CASA APMS approval for its Microair 760VHF transceiver.

New managing director of Microair, Phil Ainsworth, said the CASA approval was the first of many achievements and initiatives planned for the new company, which included new export markets and new products. "In December 1999 Microair Avionics Pty Ltd was formed to take over the business previously operated by Microair Electronics Pty Ltd. The Microair designer and founder, Nigel Andrews, was looking for new partners who could assist in international marketing, product development and financing of the business, and that is where we stepped in," Mr Ainsworth said.

The new partners – Rodney Stiff and Phil Ainsworth – are owners of Jabiru Aircraft Pty Ltd which manufacture the Jabiru range of composite light aircraft, aircraft kits and aircraft engines. "We have known Nigel for some time, having assisted him in modifying the 760 com for powered aircraft applications, and were using the Microair product in our own aircraft. Liking it so much, we brought into the company. Jabiru's international connections will also help in moving Microair into significant export markets," Mr Ainsworth said.

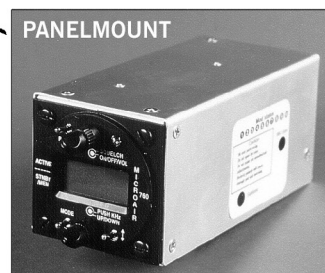
With new funding from the business and a recently approved Ausindustry research and development start grant, Microair is in the advanced stages of developing a new lightweight two-and-a-quarter inch transponder and a new 8.33kHz 760 transceiver with many additional features. The new product details and photographs are in Microair's website at [www.microair.com.au]. The current 760 model will continue in the Microair range. ✂



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The Residual Effects of Alcohol

Article originally published in (then) BASI Asia Pacific AIR SAFETY.

Reprinted in Directorate of Flying Safety – Australian Defence Force Spotlight

The effects of alcohol can be demonstrated

long after any trace is detectable in the blood.

The alcohol you consume in beer and mixed drinks is simple ethyl alcohol – a central nervous system depressant. From a medical point of view it acts upon your body much like a general anaesthetic, although its effect is milder and slower acting.

You have undoubtedly heard time and time again that alcohol is a depressant and not a stimulant. Yet after one or two drinks you certainly feel stimulated. This sensation is misleading and occurs because part of the depressant action of alcohol working on the brain brings about a release from the usual psychosocial restraints and inhibitions. You may enjoy feelings of security, wellbeing, confidence, and freedom from pressure. In reality, however, your thinking has become sluggish, you respond to urgent situations less efficiently, and your ability to perform simple tasks with speed and accuracy is diminished. If, in addition, you happen to be tired, hungry or under stress, these handicaps will be compounded.

The effect of alcohol is greatly multiplied when a person is exposed to altitude. Two drinks on the ground are equivalent to three or four at altitude. This is because alcohol interferes with the ability of the body to utilise oxygen. And the effects are rapid because

- 1) *alcohol passes quickly into the bloodstream and*
- 2) *the brain is a highly vascular organ, immediately sensitive to changes in the blood's composition.*

For the pilot, then, the lower oxygen availability at altitude, along with the lower capability of the brain (under the influence of alcohol) to use what oxygen is there, adds up to a deadly combination.

How long is performance affected?

The approach to alcohol and flying by Australian pilots generally seems very mature, and there are few recorded examples of people trying to pilot an aircraft while suffering from the immediate effects of alcohol. However, what many do not appreciate is that the deleterious consequences of drinking can adversely affect performance for up to 48 hours. This was clearly illustrated in a series of experiments conducted in the United States, the results of which were reported in the US Army Aviation Digest. Tests were conducted in a flight simulator on volun-

teers, using a blood level of 0.08% (which is considered to be a safe level by some). Almost without exception the subjects exhibited very serious errors of omission.

Had the aircraft been real, these errors could have resulted in fatal accidents, or at least would have resulted in placing the aircraft and its occupants in potentially dangerous attitudes and situations. The most interesting finding overall was that the effects of the alcohol were greatest on those pilots who, on non-alcohol flights, had shown themselves to be the calmest and best coordinated under pressure. If they were relaxed when they mounted the flight simulator, this condition was drastically changed by the alcohol, and performance deteriorated accordingly.

Behaviour such as dumping fuel inadvertently, putting the landing gear down at high speeds, placing the aircraft in irrecoverable attitudes, and attempting to land at 10,780 ft rather than 780 ft (the local field elevation) were but a few examples. So that these findings could not be attributed to chance, the experiments were repeated using different subjects, with basically the same results.

A follow-on study then examined the effects of alcohol on errors of omission, eg, forgetting an important function or overlooking an important detail. For this study, emphasis was placed on how accurately subjects could follow a 78-item pre-flight checklist that each subject took on every flight. The task in this experiment was basically the same as that of any pilot: to sequentially perform each function listed until all items were completed.

Prior to all flights, the experiments, without the knowledge of the subjects, were preset with several errors:

- *the brakes were placed in the off position;*
- *the landing gear handle was put in the up position; and*
- *the altimeter was adjusted to 1,000ft agl.*

Close adherence to the checklist should have caught all of the pre-set errors. Each subject 'flew' two test flights, one without alcohol and about one month later one with alcohol (0.08% blood alcohol level).

The results were as follows:

- *under the no-alcohol conditions, 11% of all subjects failed to correct at least one major pre-set error; and*

- *under the influence of alcohol, 79% of all subjects failed to correct at least one major error.*

These pilots, it should be remembered, were considered legally sober and capable of driving a car in most states of the USA (and, until a few years ago, in the ACT).

Most of the experiments were conducted in the late afternoon or early evening. It was noticed that some of the subjects complained in class the following morning that they still 'felt lousy' due to the previous day's flight. A check of the literature showed that the amounts of alcohol ingested normally should have metabolised easily within 10 hours after drinking. In addition, from perusal of airline publications and military aviation journals, it also was noted that the general rule-of-thumb for social drinking recommended to pilots was to allow 8-12 hours between 'bottle and throttle'. It was thought at that time that, although there was no longer any detectable alcohol in the blood, hangover effects might still produce a decrease in performance of complex tasks such as the psychomotor response required in flying.

A recent study followed this line of reasoning as tests were commenced on the so-called 'hangover' residual effects of alcohol. The results are presented in abbreviated form here.

The subjects already were familiar with pre-flight, in-flight and post-flight checklist responses and the basics of flying prior to the experiment proper. A 6-inch by 9-inch card containing a detailed checklist was given to each subject and all subjects were told to adhere to it religiously. This was followed by an actual 'hands-on' simulated flight consisting of take-off, climb-out, levelling at altitude, and full-stop landings. When the subjects reached the point where they could successfully handle these checklist 'flights' at least three times consecutively without the slightest error, the experiment proper was begun.

After this pre-training, but before the first test flight (non-alcohol), the following errors were pre-set by the experimenters:

- *the brakes were placed in the off position;*
- *the landing gear handle was put in the up position;*
- *the fuel select switch was placed on auxiliary tanks.*
- *the flaps were set at 50%; and*
- *the altimeter was adjusted to 1,000ft agl.*

At the pre-flight briefing, each subject was told to take off, climb to 6,000ft, and maintain that for five minutes. When requested to do so, the subject was to prepare for a landing and complete the landing at their discretion.

HGFA Events Calendar

The only essential difference between the flights described above and the second test flight (alcohol) was that, 30 minutes before the alcohol flights, each subject was given enough 80% vodka mixed with an equal amount of ginger ale to attain a blood alcohol level of 0.1%. Finally, a third test flight was given 14 hours after the alcohol flight.

The results were interesting to say the least. During the first test flight (non-alcohol), 10% of all subjects overlooked at least one of the major pre-set errors. For the alcohol flight, 89% of all subjects made at least one oversight error. Fourteen hours after alcohol intake, 68% of all subjects still overlooked at least one pre-set error! It is apparent that performance 14 hours after alcohol intake was more like that 30 minutes after intake than that of the first non-alcohol flight.

The evidence suggests that although most, if not all, of the alcohol had been processed through the body during the 14 hours following intake, the residual effects were contributing to this performance deterioration. All pilots should be aware of this residual effect and should rethink and possibly recalculate the margin of safety implicit in the old rule-of-thumb of 8-12 hours between 'bottle and throttle'.

What are the causes of the residual effects?

Alcohol consumption temporarily dehydrates your body by stimulating the kidneys to produce an abnormal volume of diluted urine, so that the body loses more fluid than it takes in. This dehydration produces a concentration of all the solutes normally found in body fluids, causing weakness, fatigue, and irrationality.

Another element in the making of a hangover is the assortment of organic impurities found in all alcoholic beverages. These aldehydes, ketones and other substances are metabolised in complex ways and may remain in the bloodstream long after the alcohol itself is gone. As long as these substances are present they produce untoward side effects.

That spinning feeling

Finally, some of you may have noticed that after a heavy night's drinking, you need to 'wait for the bed to go past before you can jump onto it', and that things get even worse when you lie down. This happens because of the relationship between vestibular (inner ear) stimulation and eye movements.

The semi-circular inner ear canals are best regarded as angular accelerometers. Each one is a fluid-filled tube with a watertight swing door across it. The fluid tries to stay still because of its inertia and deflects the door one way or the other, depending on the direction of the head's angular acceleration, whether produced by voluntary head movement or by some external

Australia

WA State Soaring Competition 2001

24 February – 5 March 2001

Wylkatchem (200km north-east of Perth), WA. Open to all HG & PG pilots. Ground & aerotowing based comp. Open, Advanced, Intermediate & Novice Classes plus the coveted Teams Trophy. Main emphasis for the comp is fun & safety. Mandatory requirements: GPS/databack camera, parachute, tow endorsement & UHF radio. For further details contact Mark Thompson ph: 08 9491 3076, 08 9368 4474, email <mark.thompson@team.telstra.com>.

Not the Victorian Open 2001

11-17 March 2001

Corryong (the land of light winds and Mrs Elliot (the eagle)). Meeting at the Colac Colac (pronounced "Clac Clac") caravan park on Sat/Sun. Fun event (not just racing to goal). All welcome. Competition organiser: Rob van der Klooster. Scorer: Greg Hold. Goalie: First person there. Required equipment: Glider, pilot and a love of flying. Contact Rob: 03 52278821 (w); 03 52223019 (h); <hrt@deakin.edu.au>.

State of Origin 2001 PG Comp

Easter Lang Weekend 13-15 April 2001

Manilla, NSW. Fun comp for all levels. Registration: Friday morning 9-10am. Free entry, just turn up & fly for the glory of your state (& maybe some free beer).

For any further info contact Enda Murphy 02 4294 2129 or email <endamurphy@ozemail.com.au>.

Flatter than the Flatlands 2001

13-17 April (Easter) 2001

Birchip, VIC. Entry fee: \$60 per person. Entries from teams only. Min. 5 pilots per team. Entries open 15 January 2001. For more info & updates visit [www.ains.net.au/~warwickduncan/].

HGFA Fly-In and Awards Night

28-29 April 2001

Canberra Area, ACT. All HGFA pilots welcome, bring your wing (and your friends) and have some fun. Awards Night in Canberra City. For more details phone the HGFA office on (02) 6947 2888.

St Bernards Canungra

Hang Gliding Classic 2001

13-20 October 2001

Canungra, QLD. Entry fee: \$150 (or \$120 if paid before 31/8/01) + \$40 site fees. Registration: 12 October. GPS mandatory (Garmin or Aircotec). Int rating required. PGs and Floaters welcome. Close of entry 31 August 2001. Late entry fee: \$30. Send cheques/money orders to: Rod Stead, 9 Griffith St, Nth Tamborine 4272, QLD. Entry inquiries to Rod ph: 0428 132 215 or 07 5545 0969. Further details to be advised or contact Tex ph: 07 3901 7401, 0417 766 356, <TEXDOC@bigpond.com>.

motion such as aircraft yaw, pitch, or roll. Head movements detected by this system are used to stabilise the visual world on the retina by the elicitation of eye movements, ie, eye movements are made to compensate for head movements in order that the world does not appear to fly about on the retina. You can check that this happens: by nodding while reading this article, you should still be able to read it. If, however, you wave the magazine up and down instead of nodding, then you cannot read the text.

PAN 1 and PAN 2

In order for this system to work, the watertight door must be unaffected by linear accelerations such as gravity and, to be so unaffected, the door must have the same specific gravity as the fluid. Alcohol in the system disturbs this specific gravity balance. The flap tends to float and the deflection is interpreted as a head movement and a compensatory eye movement is made. However, as no real head movement was made, the eye movement is inappropriate and the subject perceives the world as moving. This effect follows closely on the consumption of alcohol and is known as Positional Alcohol Nystagmus (PAN) 1, a phase where there is an absence of abnormal eye movements as the fluid and flap come into alcohol imbalance.

This is followed by a second phase (PAN 2), which is caused by an imbalance of specific

gravity between the fluid and the door as the system loses alcohol. (Alcohol remains in this system well after the blood levels have become negligible.) With increased G-forces the imbalance is effectively amplified. The upshot of all this is that abnormal eye movements that are evidence of vestibular problems, can be produced up to two days after drinking the equivalent of only a couple of pints of beer if the subject is exposed to 2-3G. This effect can be demonstrated long after no alcohol is detectable in the blood.

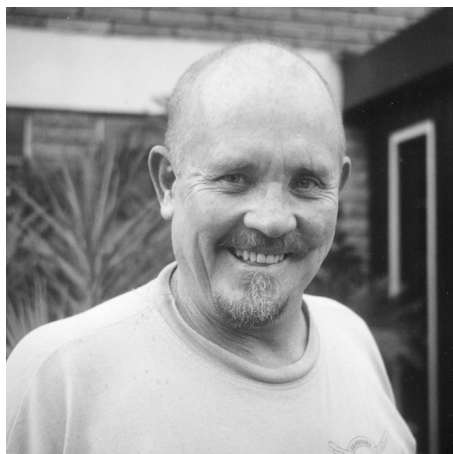
The precise significance of this as far as flying is concerned is difficult to determine, but it can safely be said that if you find yourself in an unusual attitude and being subjected to unusual accelerations, the effects discussed above may well lead to you becoming disorientated when you might otherwise not have been and, once disorientated, make it more difficult for you to recover the situation.

Summing it up

The prevention of the short-term and long-term hangover effects of alcohol is simple: don't drink. The cure for a hangover is also simple: wait, and before taking to the air, you may need to wait 48 hours. Remember, alcohol can kill beyond the time of the blood reducing to zero alcohol level.



HGFA General Manager's



easier to launch, fly and land. This particularly applies if you fly infrequently, or are getting older (aren't we all?). The hang glider manufacturers have indicated reduction in control frame downtube sales with the increasing use of "floater" type gliders. Similarly, Standard Class paragliders provide less stressful flying. Along with the increased use of these aircraft has come a reduction in landing accident injuries. There is no doubt that as we inevitably grow older our reactions become slower; flying a slower aircraft can offset this tendency and allow stress free enjoyment.

Micro-lighting is the same; the Airborne Wizard wing is ideal for older or low airtime pilots. The Wizard's docile characteristics enable ease of landing, even when it gets a bit rough during the flight. When flying with Tony Dennis recently, even I was able to land one in some really dirty air. This is despite my fairly limited triking experience and lack of recent flying currency.

Attachments and Accessories

Micro-lighting accessories are becoming readily available in recent times and along with this, some concerning incident reports. There have been reports of straps hitting propellers, bags being burnt through by exhaust systems, and items dislodging from stowage containers.

Pilots are reminded that saddlebags, extra fuel tanks and similar add-ons must be considered when assessing the aircraft's airworthiness. Such fittings and attachments must be approved, either by the aircraft manufacturer or a CASA approved engineer. Pilots must ensure that the fittings are suited to their specific make and model micro-light and ensure that the added weight is considered when calculating aircraft loading.

Grand Prix Series

The future of the proposed filming of a follow-up "Grand Prix" series for television is looking shaky. It was originally planned to film the event along the same format as the first series (though this time at no cost to the HGFA) and with some paragliding aerobatics and landing accuracy tasks included. The production company, Trans World International, has been working with the West Australian Events Corporation to have the series filmed in WA. We have encountered problems finding a sufficient number of pilots able to fund their own travel to WA. This has led to a realisation that we need to provide travel costs to pilots to get there (as well as the previously budgeted accommodation and living expenses during filming). Unfortunately, finding this additional money has been difficult. The project has been rescheduled for October 2001 and to lessen the cost it has been necessary to drop the

We have a huge HGFA event planned for next month in Canberra. We are having a Fly-In, Awards Night, Instructor Conference and Management Board Meeting all in one place. All pilots are welcome to join in the fun and festivities.

Take the opportunity to meet the HGFA Board and put forward any suggestions you may have to help our organisation better cater to members' needs.

The Fly-In, Awards Night and Board Meeting are over the weekend of 28-29 April, with the National Instructor Conference beginning on Monday, 23 April.

Low Flying Microlights

I am still getting complaints of low flying microlights, particularly over beaches. I again remind pilots that, other than when taking off or landing, without landowner permission it is not legally possible to fly below 500ft in a microlight. Common sense dictates the need to have a safe landing area available at all times, so flying at 500ft agl can only be safe where an appropriate outlanding option is available (should Murphy's Law come into play). A beach with groups of people spread along its length cannot be deemed to be a safe emergency landing option.

Suitable Aircraft

Several pilots have recently discussed their change to a lower performance, more user-friendly aircraft. No matter the aircraft type there are definite safety advantages in moving to a glider or microlight that is

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Report

paragliding inclusion (however, should adequate funding be found this might be reconsidered). I will keep you informed with developments as the project date draws nearer.

Accident Reports

Thankfully there were few accidents reported over the summer. This is heartening, particular given that the competitions often result in a few injury accidents. I therefore include just two hang gliding reports this month:

No. 1

Pilot: Restricted hang glider pilot.
Experience: 32 hrs
Hours previous 90 days: ~5 hrs
Aircraft: Nov/int hang glider
Aircraft damage: Nil
Weather: 5kt smooth air
Location: Inland mountain launch
Pilot injury: Broken wrist and bruising to legs

Description:

Pilot launched into a strong thermal cycle and slowed the glider immediately after launch. A stall ensued, the glider dropped a wing and turned back into the hill, landing on the steep slope.

Comments:

Though the wheels fitted to the base bar most likely prevented more serious injury, the pilot suffered a broken wrist. As the pilot reported, this accident resulted due to slowing the glider too much immediately after launch.

No. 2

Pilot: Advanced hang glider pilot.
Experience: Not known – extensive.
Hours previous 90 days: not known
Aircraft: Advanced hang glider
Aircraft damage: Minor
Weather: Strong thermal turbulence and light wind
Location: Inland tow site
Pilot injury: Nil

Description:

On encountering a strong thermal at around 600ft agl under aerotow, the glider pitched up suddenly and the weak link broke. The pilot turned 180 degrees and flew back toward the area of strong lift; there was sign of dust. As he entered the strong lift the nose pitched up violently, then pitched down and tucked. The pilot immediately threw his parachute, the glider stabilised in a nose-down attitude and the pilot was able to flare the glider to a reasonably soft landing.

Comment:

Eyewitnesses were amazed at the pilot's speed in getting the 'chute out, and its speed in deploying. Obviously this prevented injury. This incident reinforces the need to have your 'chute repacked regularly and to practice the "look", "grab", "throw" sequence.

Fly safely,
 Craig Worth

March 2001

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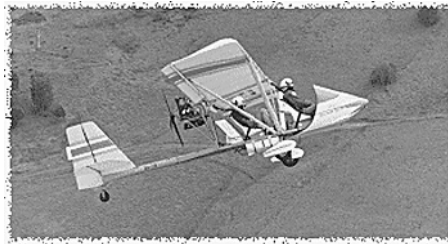
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New South Wales

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Advertising Index

Aeroshop.com	45
APC – Pro Design	42
Chamberlain Knights – OAMPS	29
East Coast HG and PG Centre	47
GFA Form 2 Notice	12
GFA Merchandise	13
Ground's The Limit	8
HGFA Merchandise	BC
High Adventure Airpark – Attention	IFC
High Adventure Airpark – SkyShop	31
Lake Keepit Soaring Club	29
Microair Avionics	39
Moyes – Accessories	43
Moyes – Litespeed	BC
Moyes – Sonic	IFC
Ol' Eagle Eyes	17
Poliglode – Astral 2	36
Schools in Australia	44
Skysports Flying School	BC
Swift – Renschler Instruments	33

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Shorthand

EMILIS PRELGAUKAS

I went to a ceremony many years ago; I think it was to receive my university 'Blue'. The awards convenor, while presenting the 'gliding' awards said – *"you'll never get me hanging under a bit of cloth."*

I remember our small group looking at one another. We all had the same thought: *"it isn't worth it,"* and let the comment pass. Once again, a member of the public had seen 'gliding' as 'hang gliding'. Over the years we have been called 'glider pilots', or even just 'gliders' or 'gliderers'.

As non-powered sports have evolved, hang, para, etc. And over years a powered element has crept in, touring gliders, self-launch and

sustainer sailplanes, trikes. So 'glider pilot' has encompassed more and more diverse and distinguishable modes in the public eye. Others have tried ways to give meaning to words. Clubs use the words 'gliding' or 'soaring' in their names to suit their taste. VMFG tried the 'motorless flight' route.

Recently I inadvertently used the term 'sailplaner' while trying to be specific between different 'gliderer' modes. It brought a reaction. But even that term still has the yachting flexible cloth connotation embedded within it.

There must be a suitable 'we fly with rigid long span wing, kemosabe' shorthand description of what we like to do somewhere. Entries welcome, forwarded in plain brown wrappers to this commentator. The winning entry gets a cloth OFTTH badge. That distinction between motorless flight sports is at least recognisable within the sports.



NEW SOUTH WALES

Australian Air League

1 Perry St, Kings Langley NSW 2147, ph: 02 9674 2551.

Bathurst Soaring Club

GPO Box 3110, Sydney NSW 2001, ph: 02 9750 0209, email <pbowring@bigfoot.com>.

Byron Bay Gliding Club

PO Box 815, Byron Bay NSW 2481, ph: 02 6684 4244.

Central Coast Soaring

PO Box 1323, Gosford South NSW 2250, ph: 02 4977 2740.

Concordia Gliding Club

231 Stanmore, Stanmore NSW 2048, ph: 0412 145 144.

Cudgong Soaring

199 Stucco, Gulgong NSW 2852, ph: 02 6374 2444.

Forbes Soaring Club

PO Box 267, Forbes NSW 2871, ph: 02 6852 2329.

Goulburn Gliding Group

PO Box 69, Goulburn NSW 2580, ph: 02 4821 4271.

Grafton Gliding

11 Lighthouse Cres., Emerald Beach NSW, ph: 02 6654 1779.

Harden Gliding Club

PO Box 24, Harden NSW 2587, ph: 02 6886 2275.

Hunter Valley Gliding

PO Box 9, Newcastle NSW 2300, ph: 02 9534 2884.

Kentucky Flying Club

PO Box 43, Newport Beach NSW 2106, ph: 02 6778 7345.

Lake Keepit Soaring

PO Box 152, South Tamworth NSW 2340, ph: 02 6769 7514.

Leeton Gliding Club

PO Box 607, Leeton NSW 2705, ph: 02 6962 7210.

Orana Soaring Club

PO Box 240, Narromine NSW 2821, ph: 02 6889 2733.

RAAF Richmond Gliding Club

RAAF Base Richmond NSW 2755, ph: 02 4579 1165.

RAAF Williamtown

RAAF Base Williamtown NSW 2314, ph: 02 4964 5062

R.A.N.G.C.

PO Box A37, Naval Air Base Nowra NSW 2540, ph: 02 4421 1333.

Soar Narromine

PO Box 56, Narromine NSW 2821, ph: 02 6889 1856.

Southern Cross Gliding Club

PO Box 132, Camden NSW 2570, ph: 02 4655 8882.

Temora Gliding Club

PO Box 206, Temora NSW 2666, ph: 02 6977 2733.

Timbarumba Gliding Club

Mundaroo, Timbarumba NSW 2653, ph: 02 6948 5283.

Tumut Gliding Club

PO Box 112, Tumut NSW 2720, ph: 02 6947 1148.

Wagga/Lockhart Gliding Club

PO Box 68, Lockhart NSW 2656, ph: 02 6925 2276.

Warrumbungle Gliding Club

Kirriwa Gilgandra NSW 2827, ph: 02 6795 4333.

ACT

Canberra Gliding Club

PO 1130, Canberra City ACT 2601, ph: 02 6231 1995.

QUEENSLAND

Boonah Gliding Club

PO Box 107, Boonah QLD 4310, ph: 07 5463 0190.

Bundaberg Gliding Club

PO Box 211, Bundaberg QLD 4670, ph: 07 4155 3158.

Caboolture Gliding Club

PO Box 920, Caboolture QLD 4510, ph: 0418 713 903.

Central Queensland Gliding Club

PO Box 953, Rockhampton QLD 4700, ph: 07 4937 1381.

Darling Downs Gliding Club

PO Box 584, Toowoomba QLD 4350, ph: 07 4663 7140.

Gympie Soaring

PO Box 103, Gympie QLD 4570, ph: 07 5486 7247.

Kingaroy Soaring

PO Box 91, Kingaroy QLD 4610, ph: 07 4162 2191.

Moura Gliding Club

PO Box 92, Moura QLD 4718, ph: 07 4773 3542.

North Queensland Soaring

PO Box 5790, Townsville 4810, ph: 07 4773 3542.

QAIR Training Corp

PO Box 698, Booval QLD 4304,

ph: 014 984 752.

Southern Downs Soaring

PO Box 144, Warwick QLD 4370, ph: 07 3378 1717.

Tarwan Soaring

PO Box 34, Wandoan QLD 4419, ph: 07 4627 4080.

VICTORIA

Albury Corowa Gliding Club

PO Box 620, Wodonga VIC 3689, ph: 018 691 611.

Beauford Gliding Club

7 Chapman St, Footscray VIC 3011, ph: 03 9687 6691.

Bendigo Gliding Club

62 Lawson St, Bendigo VIC, ph: 03 5443 9169.

Corangamite Soaring

Kurweeton, Derrinallum VIC 3325, ph: 03 5593 9277.

Geelong Gliding Club

PO Box 197, Bacchus Marsh VIC 3340, ph: 03 5369 5125.

Gliding Club of Victoria

PO Box 46, Benalla VIC 3672, ph: 03 5762 1058.

Grampian Soaring

PO Box 468, Ararat VIC 3377, ph: 03 5352 4240.

Latrobe Valley Gliding Club

PO Box 625, Morwell VIC 3840.

Mangalore Gliding Club

PO Box 80, Avenel VIC 3664, ph: 03 5798 5512.

Mt Beauty Gliding Club

44 Roper St, Mount Beauty VIC 3699, ph: 03 5754 4096.

RAAF East Sale Gliding Club

9 Weir St, Sale VIC 3851, ph: 03 5144 2362.

South Gippsland Gliding Club

PO Box 475, Leongatha VIC 3953, ph: 03 5664 2300.

Stawell Gliding Club

20 Jones St, Stawell VIC 3380, ph: 03 5358 2713.

Sportavia Soaring

PO Box 78, Tocumwal NSW 2714, ph: 03 5874 2063.

Sunraysia Gliding Club

PO Box 647, Mildura. Vic 3500, ph: 03 5025 7335.

Swan Hill Gliding Club

PO Box 160, Nyah Vic 3594, ph: 03 5037 6688.

Victorian Motorless Flight Group

GPO Box 1096J, Melbourne 3001, ph: 03 5369 5125.

Wimmera Soaring

PO Box 158, Horsham. Vic 3402, ph: 03 5382 3491.

SOUTH AUSTRALIA

Adelaide Hills Soaring

PO Box 1, Bridgewater SA 5155, ph: 08 8534 4011.

Adelaide Soaring

PO Box 94, Gawler SA 5118, ph: 08 8522 1877.

Adelaide University Gliding Club

Sports Assoc. Uni of Adelaide SA 5005, ph: 08 8826 2203.

Balaklava Gliding Club

PO Box 257, Balaklava SA 5461, ph: 08 8864 5062.

Barossa Valley Gliding Club

PO Box 123, Stonefield via Truro, SA 5356, ph: 08 8564 0240, email <brynw@senet.com.au>.

Blanchtown Gliding Club

12 Altona Road, Modbury SA 5092, ph: 08 8556 2240.

Bordertown-Keith Gliding Club

PO Box 377, Bordertown SA 5268, ph: 08 8752 1321.

Gawler Gliding Club

PO Box 274, Lyndoch SA 5351, ph: 08 8524 4595.

Lake Bonney Gliding Club

PO Box 243, Barmera SA 5345, ph: 08 8588 2758.

Millicent Gliding Club

PO Box 194, Millicent SA 5280, ph: 08 8739 3235.

Murray Bridge Gliding Club

PO Box 1277, Victor Harbour SA 5211, ph: 08 8554 3543.

Port Augusta Gliding Club

PO Box 272, Port Augusta SA 5700, ph: 08 8643 6228.

Renmark Gliding Club

PO Box 450, Renmark SA 5341, ph: 08 8585 1422.

SA AIR TC

PO Box 2000, Salisbury SA 5108, ph: 08 8258 8026.

Waikerie Gliding Club

PO Box 320, Waikerie SA 5330, ph: 08 8541 2644.

Whyalla Gliding Club

PO Box 556, Whyalla SA 5600, ph: 08 8645 0355.

TASMANIA

Tasmania Soaring

PO Box 24, Ross TAS 7209, ph: 03 6255 2191.

NORTHERN TERRITORY

Alice Springs Gliding Club

PO Box 356, Alice Springs NT 0871, ph: 08 8952 6384.

North Australia Gliding Club.

PO Box 38889, Winnellie NT 0821, ph: 08 8985 5330.

WESTERN AUSTRALIA

Beverley Soaring

PO Box 136, Beverley WA 6304, ph: 08 9646 1015.

Gliding Club of Western Australia

356 Abernethy, Cloverdale WA 6105, ph: 08 9635 1023.

Morawa Flying Club

PO Box 276, Morawa WA 6623, ph: 08 9972 3022.

Mt Newman Gliding Club

PO Box 119, Newman WA 6753, ph: 08 9175 2434.

Narrogin Gliding Club

PO Box 232, Narrogin WA 6312, ph: 0407 088 314.

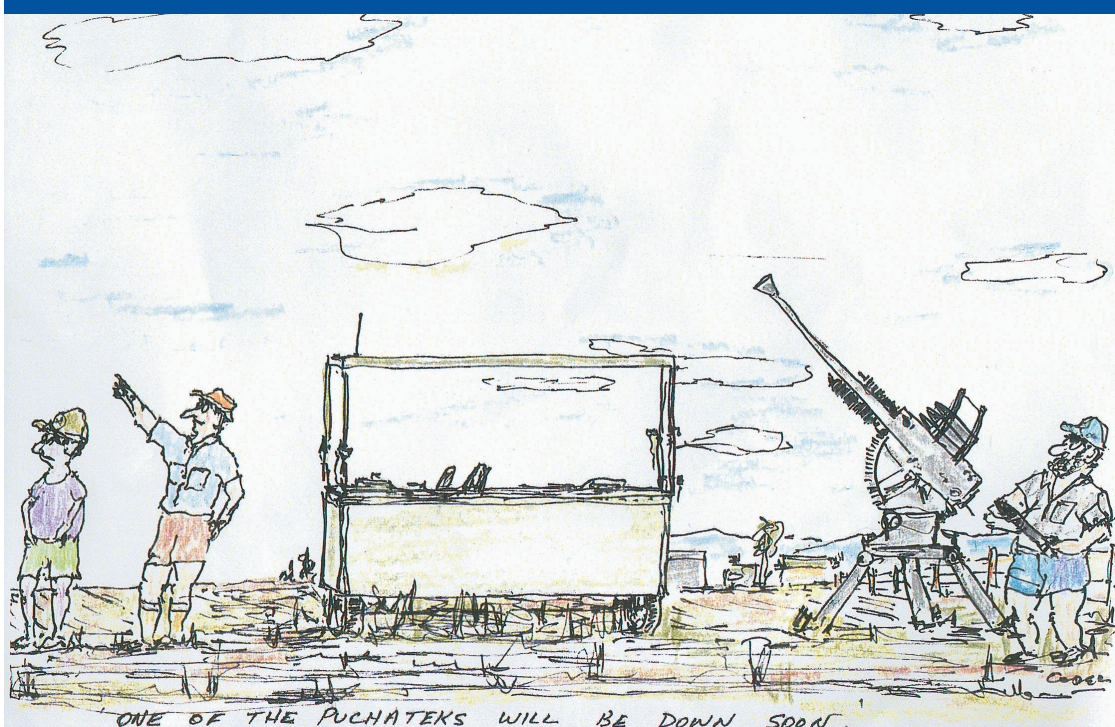
Stirlings Gliding Club

Post Office, Lower King WA 6330, ph: 08 9828 2119.

WA Air Training Corp

300 Vincent St, Leederville WA 6007, ph: 08 9444 0522.

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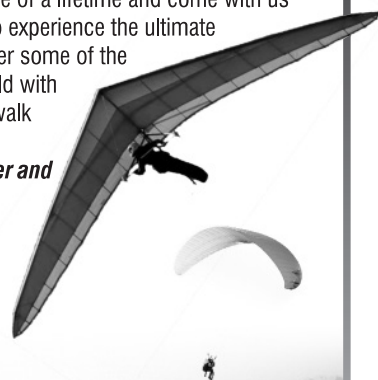
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