Soaring AUSTRALIA

April 2003

41st Australian Gliding Nationals

A SA Paragliding Towing Odyssey

Flying with Rachel

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Photo: Bernhard Eckey

Soaring AUSTRALIA

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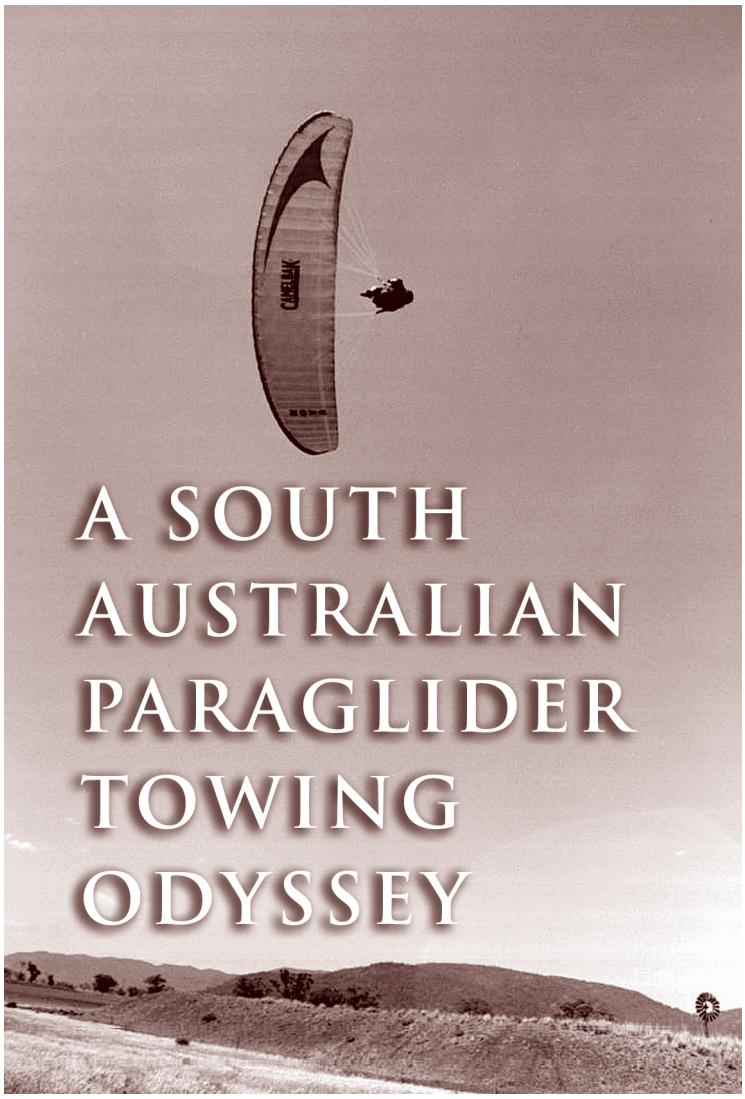


A SOUTH AUSTRALIAN PARAGLIDER TOWING ODYSSEY

Peter Allen on his first tow (Breeza, NSW)

Left: Rhett Rockman getting the author's Carbon sideways (Breeza, NSW)

Kym Fielke

THE SUN IS ALMOST SETTING ON THE FIRST DAY OF NOVEMBER 2002 AND I'M STILL GLIDING ALONG IN SMOOTH THERMIC AIR AT 3,000FT ASL ABOVE THE DROUGHT STRICKEN COUNTRYSIDE IN NORTH-EASTERN NSW. THE LARGE BROWN BREEZA PADDOCK I LAUNCHED FROM MID AFTERNOON IS 70KM AWAY.

Fifteen minutes later I celebrate, completing my furthest country flight of 73km, hamming it up with a negative spin landing in a narrow paddock alongside the main road to Barraba. Later that evening Rhett Rockman, our tow instructor, told me I'd bombed at the infamous Tarpoly sinkhole, about 20km north of Manilla. Why should I care? I hadn't expected to break my PB distance and PB altitude on the first day of Rhett's two day tow endorsement course. Or learn SATs on the same day for that matter either…

A REASON TO TOW IN SOUTH AUSTRALIA

We've talked and talked (and talked) about getting paraglider winching happening around Adelaide for way longer than several years. Discussions over drinks and keyboards usually revolved around whether we buy a pay-in or pay-out winch, do we form a syndicate or a club to own and maintain said winch, etc, etc. I'm very happy to say that we've finally had some towing action happening here after all the years of discussions. It's great to see a dream like this manifest for our local paragliding scene, as I believe it will help us in numerous ways.

I've spent the past few years pursuing cross-country flights from sites like Mt Bryan and Mt Horrocks, two and three hours drive north of Adelaide respectively. A few other pilots have also clocked up some hours of thermalling at these sites, but no distances further than a measly 18km has been flown in this time. Only recently have we "discovered" (the hang glider pilots have used it in the past) a little jewel of a site called Peeralilla Hill, situated 50 minutes south of Adelaide. It's an extremely consistent thermic site, working very well during winter too, but it hasn't proved itself (yet) as a site ideal for cross-country flights, due mainly to its close proximity of eight kilometres from the coastal town of Victor Harbour.

Apart from these several sites, the few sites more regularly used by the hangies in the Mid North near Snowtown haven't produced any epic flying for paragliders in the past few years, even though our state inland *(*NB on the "inland" part – read further)* paragliding distance record of 123km was done from Lochiel Ridge back in 1994 by ex-pilot/ex-instructor Rick Wilson. The theory I'm sticking with is that all the awesome cross-country days here in SA happen during the week while we're at work, not on the weekends. That's how it works in other states, doesn't it?

So, I quit work. Oh, that's right, no I didn't, did I? Wake up, man!

Anyway, after talking with our cross-country hang gliding legends like Steve Blenkinsop and Steve Papai, I realised that our next step in the search for bigger and better thermals may lie in the flatland regions that stretch east beyond Adelaide's surrounding non-flyable (apart from a site at Marne River) Mt Lofty Ranges, obviously requiring us to be towed up.

With the help of a meeting involving large amounts of pizza in December 2001 and our email forum, we bought a secondhand locally designed and built payout winch a couple of months later. The sad part is that the winch had been sitting in a backyard shed in Bendigo, Victoria, for five years and we didn't even know about it until a friend-of-a-friend-of-a-friend coincidence landed on my doorstep. All in good time, I guess.

Daniel Straga ready to launch (Breeza, NSW)
Photos: Kym Fielke

Phil Degotardi on tow (Stonefield, SA)

A week later, nomad of a Perth paraglider pilot Dave Humphrey test flew the winch and we were all impressed by it's simplicity in design and function – thanks Larry Jones.

THE NEXT STEP

Come mid-2002 and Adelaide was left without a paragliding instructor, so I enlisted the help of Ted Jenkins from Alpine Paragliding in Bright to come over and teach towing to a gaggle of future towees. Ted kindly drove his way over to meet us at the Barossa Valley Gliding Club at Stonefield on the June long weekend. But after a beautifully calm long autumn, this particular weekend just happened to turn out to be the precursor to an insanely blown out winter flying season, the likes of which I've never seen here. Way too strong to tow paragliders that weekend, Ted and several of us enjoyed the chance to be towed up in BVGC's Blanik two-seater sailplane. I recommend a towed glider flight to anyone as it feels pretty crazy how steeply and quickly the truck mounted glider winch literally rips you off the ground – you can't see the tow line while on tow. Pinning-off provides a nice negative-G experience also. Good fun.

With the windy conditions not cooperating with us during winter and into spring, it became impossible for Mad Dog Jenkins to make it back to Adelaide, particularly once the paragliding courses started in Bright for him again in spring. Praying hard for calm winds, a few of us with itchy towing pants then decided to take an 18-hour drive interstate to Manilla NSW, after signing up to do Rhett Rockman's tow endorsement course, held one hour's drive south at Breeza.

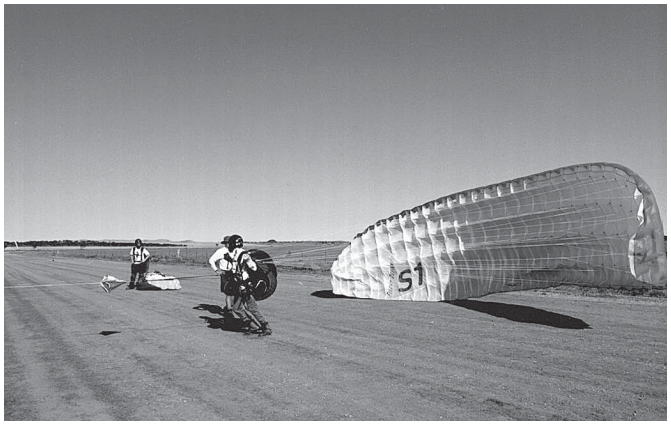
MUCH MORE THAN WE ASKED FOR: XCs, PBs AND SATs

Friday, 1 November and I'm finally weak-linked to a fat arsed six millimetre tow rope connected to a super duper pay-out winch with a super wide drum in a big Breeza plains paddock crossed with long tow strips. With nil wind – finally! My first tow was sweet and smooth. Rhett had kindly started the course a day earlier for Peter Allen, Daniel Straga and myself to make 100% sure we'd be driving back home four days later with our tow endorsements.

After a few tows each it began to feel rough on tow, so Rhett took Daniel's Flight Design Boxtair for a test tow to check the conditions. As suspected, the morning's inversion layer was breaking up with the sun's heating, causing the rough ride. After pinning off Rhett proceeded to wing-over a DHV 1 glider like we'd never seen, and then pulled a SAT – something I've wanted to see in the flesh for a long time, not just on video. Daniel's mouth dropped open, as I doubt he'd ever thought he'd see his wing put through its paces like that.

After the forced lunch break we headed back out to the now nicely thermic paddock, proved after my fourth tow by climbing out to 3,000ft agl. No one knew what I was going to do once I topped out, but I finally had a safe altitude to learn the SAT manoeuvre. My head and body were loaded with visualisations on how to SAT via detailed dissection of the SAT teams videos and with guidance from a US acro pilot on how to do them in my Nova Carbon. It didn't work quite right on my first attempt, as it became more of a hard spiral, but I gained a good idea of what was required to SAT properly. From my next tow up I climbed to 5000ft agl and pulled a few SATs on the way down, finally discovering what it was like to fly backwards at high speed. It's a pretty fantastic feeling.

Nearing mid afternoon and with a half dozen tows each and some PB altitudes for us Adelaidians, Rhett decided to call it a day to give us a chance to go cross-country, making the most of the beautiful wide thermals we'd been playing in all afternoon, like happy kids in a sandpit. Peter left the paddock first, managing to fly his first ever cross-country of 10km with a PB altitude of 4,700ft asl. Daniel



Phil inflates cleanly (Stonefield, SA)

Adelaide's "Chick Magnet" tow ute (Stonefield, SA)

Daniel Streit at the winch controls (Stonefield, SA)

Matt Tomlinson ready to go (Stonefield, SA)

was towed up next and was also rewarded with his first cross-country of 22km, to a PB altitude of 9,300ft asl. I gave chase – well tried to – but sunk out all the way to the ground in big sink after pinning off from a 2,100ft tow. After a re-tow I also managed to clock up a PB distance of 73km (previous was 18km in SA) to a PB altitude of 8,400ft asl. I must admit that it felt very strange to fly back to Manilla from a tow paddock and pass Mt Borah on its eastern side on my way further north, because the majority of pilots fly from Mt Borah, not to it. To top it off I stupidly missed out on Eric Pernoud's offer of a free ice cream by not choosing to land back at his Rivergums Caravan Park in Manilla where we were bunking. Doh! How did I screw that decision up? Stuff a PB distance I say, take the free Paddle Pop if you get the chance (the chocolate flavour still rules).

We were blown away and high as hell to fly a total of 105km between us on day one of a towing endorsement. Rhett grinned from ear to ear, very pleased with his mainly coastal pilot students' efforts. We finished up our endorsements the following day when two other pilots, Brad Tull and Bec Denne began their endorsements.

Unfortunately Mt Borah was blown out the remainder of our stay, but we managed to have a nice long chat and watch videos with Godfrey Wenness at his home at The Mountain, learning a lot of tips and tricks from the Manilla cross-country guru.

BACK TO STONEFIELD: INSANE HEAT AND HUGE DUST DEVILS

Dave Humphrey made his way back to Adelaide from Perth to see the spectacular solar eclipse at Ceduna that occurred on 4 December 2002. A couple days before the eclipse Dave broke our state paragliding distance record, flying a mammoth coastal distance of 171km in six hours along the Great Australian Bight cliffs from west to east *(see February '03 issue)*. That means our coastal record distance is now longer than our inland record. A huge effort, Dave! His flight is easily the longest coastal PG flight in Australia, and I bet it would also be one of the longest in the world (Dave is chasing up the details regarding this).

As penance for doing the record, Dave offered to teach our second attempt at a tow endorsement weekend back at Stonefield on 14/15/16 December. The nil to light winds graced us for the three days straight, but we paid for it dearly with intense heat on day two and three with 40ºC on both. We rose with the sun each day, camped out next to the BVGC club and bunk houses, towed for three mornings straight started as early as 7:30am, until the dust devils reared their ugly heads before noon each day. The multiple airstrips enabled us to switch towing directions rapidly as the light winds changed directions. By Monday afternoon, South Australia had another six pilots tow endorsed.

Some free-flying took place, but the only cross-country was done by Mildura pilot, Gavin "Butt slide" Hanlon, pulling off a bouncy 10km flight. He reported solidly formed dusties going way beyond his max altitude of 4,000ft. It was pretty "boisterous" up there – Dave Humphreys' quote on the extreme conditions we were dealing with. On the Sunday a sailplane pilot made it to 14,500ft asl, reporting a cloudbase of 15,500ft asl, with well defined dusties climbing all the way to base.

OUR WINCHING FUTURE

South Australia is blessed with a large number of spectacular coastal sites close to Adelaide enabling us to fly all year round. We don't have to put our gliders away in winter like many interstaters seem to do. We're not known for cross-country flying, but now that we have a good core of tow rated pilots, we'll be able to explore our flatland regions, learning as much as we can about thermalling and cross-country flying. Hopefully this will also reinvigorate the hang glider pilots to get back into towing here in SA again. In the past we've been travelling interstate to the more reliable inland sites at Bright and Manilla. Now we can fly in our home state's well known cross-country regions of the Riverland and the spectacular Flinders Ranges – areas that have been flown for decades by the sailplane fraternity. We recently towed in the Riverland on Boxing Day at the Loxton Aerodrome, but the day was a little too stable to get up and away. We also managed to kill the winch that day, so we're quickly learning about the money required to maintain a 'portable mountain maker'. We've got a lot to learn, but we're full of enthusiasm to expand our knowledge on the wonderful feeling that you can't beat, that of hooking into a nice fat thermal to base.

One of my aims is to hold more tow endorsement weekends for our pilots who still aren't endorsed. Further down the track a greater aim is to utilise Lake Bonney at Barmera in the Riverland for over the water safety training courses (SIV) and even acro training courses.

THE THANK YOU LIST

Hopefully I'll cover everyone who has helped or been involved to any degree in getting paragliding winching up and running in SA, so here goes. In no particular order, here's a big thank you to you all:

Ted Jenkins, Dave Humphrey, Rhett Rockman, tow master Col, Peter Allen, Daniel Straga, Daniel Streit, Jonathan Thorpe, Geordie Haig, Matt Tomlinson, Phil Degotardi, Alex Genz and Jocelyn Harvey, Tony Brister, Tony Brown, Stuart Jones, Jeffrey Brenton, Roger Hardingham and all the other South Australian parapunters, Gavin Hanlon, Ted Bowden and Kevin Barnes and all the BVGC crew for your hospitality at Stonefield.

Thanks also to my co-sponsor Shane Thomas at CamelBak [www.camelbak.com] for keeping myself, and other pilots, constantly hydrated during long flights and long hot days in the Australian sun.

For more information on paragliding in SA, please check out Geordie Haig's website at [www.parapunter.com].

Hang Gliding is CRAP!

Raelene Zwahlen (Bernie Zwahlen's daughter)

Bernie finally takes his two daughters horse-riding, Rachel (middle, 17 years old) and our story-teller Raelene (right, 14 years old) Photo: Monica Zwahlen

HANG GLIDING IS CRAP! THOSE FOUR WORDS WOULD SEND A STREAK OF PAIN THROUGH MY DAD'S HEART IF HE READ THEM. HE IS **OBSESSED** WITH HANG GLIDING. ANYTHING FROM STARING AT THE CLOUDS AS THEY PASS OVERHEAD TO CHASING FLOCKS OF BIRDS ALL OVER THE TABLELANDS. AS THE DAUGHTER OF ONE OF THESE CRAZY HANG GLIDING LOONY BINS, IT CAN GET QUITE FRUSTRATING IF YOU WANT TO SPEND SOME QUALITY TIME HAVING FUN, LIKE NORMAL PEOPLE, WITH ONE OF THESE HOONS.

Every Monday there is the promise of going horse-riding with us because *"it won't be flying weather on the weekend."* But as the week goes on the promise wears thin as the weather perks up. Clear sunny days take over from the cold, muggy ones and dad peers hopefully to the sky from the workshop. He starts getting excited around about Thursday and when he promises a customer that he will work on his truck on the weekend, he gets odd looks from us **and** the customer.

Saturday mornings he is up early and starts to ring his hang gliding buddies and organise whose car they will use. Mum gets dragged along (quite willingly though) and acts as pick-up driver.

If it is a good day, dad will fly far if he can get over the back, and quite often has been found celebrating at the nearest pub and arriving home late if he has had a good flight. The publican will always remember the drunk and happy bloke shouting *"Up the mighty Tractor!"* or *"Up the mighty Climax!"* and the re-telling of his story about how he got away and flew the furthest.

At competitions, he arrives early to discuss what the task will be on that particular day. If he thinks the weather conditions might change quickly, he tries to get an early start. But if he has something sneaky in mind, he dawdles along until there are only stragglers and late pilots left behind.

Though dad loves hang gliding, sometimes he just has to say no. There is usually a work overload and dad has to work his way through it all. Luckily, most customers don't mind if he goes flying on the weekends, usually joking that he spends more time flying than working. And although it doesn't happen as much as we'd like, dad does occasionally come riding with us. He takes us far and wide, up steep mountains and through numerous farmers' paddocks to find some overgrown, wait-a-while and stinger infested track, which used to lead to some place or another a few years ago… We look on disbelievingly as he battles through the foliage only to come back and admit that it is gone.

The worst time is January when dad goes down south to compete in the other competitions. There he meets up with other crazy loons and they all have a good yarn about their flying experiences (though most might be a bit exaggerated!). That is the time when we really miss him and worry a lot about him.

Most hang glider pilots will probably do a double take when they hear those four terrible words, but that's what I think about hang gliding!

22ND CLUB AND SPORTS CLASS
Temora, NSW – 13-24 January 2003

Robert Hart and Brian Wade

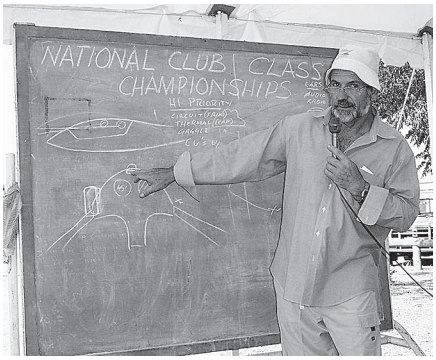
THE 2003 CLUB CLASS NATIONAL CHAMPIONSHIPS WERE CONDUCTED AT TEMORA, NSW, FROM 13 TO 24 JANUARY 2003. TEMORA GLIDING CLUB WERE OUR HOSTS AND CLUB PRESIDENT GEOFF KING AND HIS TEAM OF WILLING WORKERS ARE TO BE CONGRATULATED IN PROVIDING AN EXCELLENT AND FRIENDLY ENVIRONMENT FOR THE COMPETITION. THE WEATHER WAS PROMISING INITIALLY BUT UNFORTUNATELY THE SECOND WEEK WAS MARRED BY SMOKE FROM THE DEVASTATING BUSH FIRES THAT FLARED ON THE WEEKEND OF 17 JANUARY, WHICH ALSO LEAD TO THE RAPID DEPARTURE OF A NUMBER OF COMPETITORS AND HELPERS FROM CANBERRA. IT IS UNUSUAL TO HEAR GLIDER PILOTS WISHING FOR RAIN, PARTICULARLY DURING A COMPETITION, BUT AFTER THAT WEEKEND THIS WAS A COMMON REMARK. IN TOTAL, FIVE COMPETITION DAYS WERE LOST, WHICH IS MOST UNUSUAL FOR TEMORA AT THIS TIME OF YEAR AND ESPECIALLY SO IN THE MIDST OF A DROUGHT.

Temora is set in the central NSW plains, where the countryside is well populated with outlanding fields and there is little "tiger country". The competition area extended north to Forbes, west nearly to Griffith, south to Pleasant Hills/Tumut and east nearly to Cowra/Boorowa.

In all, 46 pilots (six at their first Nationals) took part, flying 43 gliders ranging in performance from an ASW22 to a Bergfalke. In a club class competition, each aircraft is given a handicap which is linked to a reference weight (no water ballast allowed) that must not be exceeded. This allows gliders with wildly different performance characteristics to compete on a level playing field.

The atmosphere of the competition was very friendly -newcomers were welcomed and their "obvious" questions answered with a smile. Both in the air and on the ground, much advice and assistance was available from the "gun" pilots, which added greatly to the overall experience of the newcomers. Despite the friendly atmosphere, there was stiff competition amongst the top pilots and often there was less than a point or so separating the top three finishers.

A major part of the friendliness of the competition was due to the emphasis on safety. The daily briefing included a 10-minute safety segment covering a particular safety issue, which enhanced and extended the safety briefing documents included in the competition registration kit.



Hank Kauffman presenting one of the safety briefings. This one stressing the importance of lookout well above and below the horizon

This emphasis on safety was applied on the ground and in the air by all pilots with the result that the competition was flown with no accidents and no reportable incidents. Whilst Temora has no scheduled commercial passenger traffic, it does receive a regular late afternoon flight servicing the needs of the town's banks – generally arriving as the gliders were finishing. Colin Turner (Competition Director) and his team did an excellent job in keeping the inbound gliders and the Aerostar advised of one another's movements and intentions.

A COMPETITION DAY

All the tracks flown at this competition were Assigned Area Tasks. Each day started with a temperature trace flight followed by a task-setting meeting. At this, Colin Turner, Tom Gilbert and a pilot's representative were advised by David Wilson's excellent weather briefing. The task was then set, usually based on a 100km/h average speed by a Libelle to give a median distance for the agreed minimum task time. Turnpoint circles of appropriate radius were then added to allow a larger distance to be flown by high performance gliders and a lesser distance by lower performance gliders. The glider handicap then brings every glider to the standard. At this meeting the optimum task start time was determined, from which the marshal and first launch times followed. All of this information was then given in writing to the pilots at the daily briefing.

In addition to its serious side, the daily briefing had its moments of humour. Daily "Nong" awards were made – for example, to the pilot who reversed his car into his glider having just given a safety briefing on collision avoidance. The loudest roar of laughter, however, was awarded to Colin Turner who, when detailing the tarmac runway marshalling and launch procedure, exhorted the assembled company to *"Get onto the runway and get your gear off quick!"*

The first few competition days were launched from the grass runways. Despite damping down by a water cart, this lead to a very dusty experience for all concerned and virtual IFR take-offs for the gliders whilst in the dust raised by the tugs. After these experiences, Colin Turner was able to arrange

NATIONALS

with CASA and the Temora Shire to use the tarmac runways, which provided a more pleasant experience for pilots and ground crews alike. Even so, running about on a black tarmac runway at high noon when the air temperature is over 40ºC shows the dedication of the launch master and helpers – particularly the rope runners.

It is a tribute to the launch crew and tug pilots that the launch was so efficient. The tuggies used thermals to enhance their climb rates and to ensure most pilots were in lift at release height. On average 43 aircraft launched in 50 minutes – the four motor gliders merged in with the aerotows.

About 15 minutes after the last glider rolled, the start gate was opened. Each glider called its start time and start point and was carefully logged by Wendy Medlicott as the initial part of the SAR (search and rescue) procedure. There was then time for the competition team and ground crews to relax for a few hours until the gliders started to return. The town of Temora provided a welcome and civilised location for crew "R and R" after the heat, dust and bustle of the launch.

As each glider made its 10km inbound call, they were carefully logged back in (SAR procedure again). As the number of gliders outstanding decreased, one could pick each truant's crew by their increasing agitation. If the phone rang in the clubhouse, heads turned and waited to hear if "their" pilot had outlanded. In all, there were 16 outlandings during the competition. At the end of each day, results were quickly available. In part, this was due to the competition requirement that only GPS loggers would be accepted, but it was in the main due to the sterling work of Joy Shirley driving the latest version of Tim Shirley's scoring program.

After landing at Temora (or a trailer retrieve back to the airfield) and the handing in of loggers, Temora Aero Club provided a welcome place to unwind over a cold beer and dinner cooked by the inimitable Geoff King to whom special thanks are due for preparing meals after midnight on some days to cater for tired and hungry retrieve crews.

On those days where a task was not possible, self drive excursions were made to places such as the cinema in Wagga Wagga, the Wagga Winery (excellent Rainbow Trout) and the Temora Aviation Museum, where the emphasis is on keeping historical aircraft flying – most notably the only Spitfire flying in Australia.

Each daily winner was asked to contribute to this article. Their comments make interesting reading and collectively provide valuable guidance for all budding competition pilots.

THE RESULTS

The contest dinner was held at the Temora Bowls Club on Friday 24 January. During what was a most enjoyable and relaxed social event, the following prizes and trophies were presented:

CLUB CLASS CHAMPION

1 Terry Cubley	955.6
2 Tom Gilbert	951.5
3 Hank Kauffman	947.3

CLUB CLASS TWO SEATER WINNER

Mark Laird/Ian McPhee

HANDICAP SPEED TROPHY

Scott Lennan 117.4, actual 115.1

HIGHEST PLACED LIBELLE

Tom Gilbert – CK

MENTOR AND PUPIL TROPHY

Rolf Buelter and Jarek Mosiejewski 910.7 871.9 (Average 891.3)

BATTLER'S TROPHY

Mike Morris

BEST WOODEN AIRCRAFT PERFORMANCE

Mark Laird/Ian McPhee

TEAMS TROPHY

Geelong 1, Terry Cubley and Rolf Buelter 931.2

HIGHEST PLACED NOVICE

Jarek Mosiejewski, UKA

WRAPPING IT UP

Many club pilots think that they are not good enough to compete at state level let alone at a national level. Certainly the standard of flying at this competition was high in terms of safety, but that is well within the grasp of most club pilots. The level of competition acumen however was very wide, as can be seen by the results. Any cross-country pilot and any glider can fly in a Club Class competition: get some training and experience in 'gaggle' flying – relaxed regional competitions such as the Queensland Easter Competition (at Dalby from 18 to 26 April 2003) are a great place to start by sharing a two-seater with a more experienced pilot.

Colin Turner briefing pilots on the task for the day

Shade was at a premium while waiting for a launch decision, and Bergfalke Tango Papa had more to offer than most gliders on the grid

One of the pre-launch pilot meetings at which Contest Director Colin Turner announced start time and/or task changes

Spending a week or more with other glider pilots in a competition is highly rewarding – irrespective of where you place! The authors came away from this, their first National competition, with increased skills to enhance their future enjoyment, great memories and many new friends.

We hope to see YOU at the next National Club Class competition!

POST SCRIPT

On the return trip to Queensland the authors stayed at a Narrabri motel with the trailer disconnected and parked in a side street. Next morning, with Robert at the wheel, we headed for the main road as Robert outlined his intended route. My response was that the route sounded fine, but that it would be even better if we had the trailer with us! A definite nominee for a "Post-Competition Nong Award".

BW

22ND CLUB AND SPORTS CLASS NATIONALS

Temora, NSW – 13-24 January 2003

COMPETITION DAY 1 – 14 JANUARY

Assigned Area Task: Two hours
Ardlethan–Caragabal–Temora
(Mean 316, Max 519, Min 148)

1 Tom Gilbert – Std Libelle	107.34km/h
2 Peter Buskens – ASW-24E	105.00km/h
3 Bruce Taylor – ASW-22BE	103.22km/h

Winner's comments:
It's always a pleasant surprise to win a day at any contest. When on track chasing dust devils and cursing one's poor luck or lack of ability you can sometimes forget that others are probably experiencing similar problems (except Bruce Taylor!) Such was my day. I had won the practice day yesterday so expected to do reasonably well. But then winning the practice day is like kissing your sister!

Pre-start was promising… five to six knots or so to 8,000ft. I flew an exploratory run to Ariah Park to check conditions to the west then came back for a start. The Libelle chews up altitude at 80kt so it was great to meet up with the weatherman, David Wilson, about 20km out climbing at seven knots. These climbs kept coming, which convinced me to continue the leg past the turnpoint. A climb at 18km past Ardlethan was a good place to turn downwind towards Caragabal… the second turn.

Progress slowed somewhat on this leg and then my primary vario died (no jokes about the plumber's taps please). With no audio, averager or cruise information I was a bit lost but staggered on using the standby vario. After turning for home I met up with two gliders in a nice smooth six-knotter that got me on a final glide (with no calculator I took some extra altitude for safety).

COMPETITION DAY 2 – 15 JANUARY

Assigned Area Task: Three hours
Ungarie–Forbes–Springdale–Temora
(Mean 339, Max 515, Min 178)

1 Hank Kauffman – ASW 20B	102.49km/h
2 Terry Cubley – DG 300	102.37km/h
3 Phil Ritchie – DG 200	100.49km/h

Winner's comments:
I started about the middle of the fleet, working six knots to 7,000ft on average, along the edge of a trough line. For the first leg it was blue initially, but with plenty of thermal markers as I gradually worked my way though the slower gliders. Fortunately, small cumulus started to pop – eight knots to 9,000ft as we passed Ungarie running in company with Tony Tabbart in his 18m Ventus. I had to work pretty hard to stay with him in the strong conditions. Turning 35km north of Ungarie I headed for Forbes, out into the blue away from the trough line. I let Tony lead out, travelling faster, but I managed to keep him in sight as we glided from 9,000ft down to 4,000ft in smooth air. I caught up with Tony when he slowed right down and both of us became cautious. We managed to climb away in five knots to 6,000ft inside the Forbes circle and immediately headed south to try to pick up the trough line, which we eventually did after a couple of slow climbs. Two six-knot climbs to 8,000ft followed and I became separated from Tony, to be surprised when I just beat him home. Tony got low and had a bit of a grovel. I managed 113km/h off the stick – not all that fast, but enough to win the day.

COMPETITION DAY 3 – 16 JANUARY

Assigned Area Task: Three hours
Rankin Springs–Coolamon–Aleena
(Mean 404, Max 637, Min 184)

1 Bruce Taylor – ASW 20BE	108.52km/h
2 Tom Gilbert – Std Libelle	107.31km/h
3 Scott Lennon – Std Libelle	106.19km/h

Winner's comments:
The forecast was for a general north-west airflow with a trough line sitting quite close to our task area giving some mid-level instability. Thermal heights were expected to be around 8,000ft.

The Assigned Area Task was to be three hours for a mean distance of 404km. My pre-flight thoughts were that the trip might turn out to be quite fast, as the winds were not too strong and the convection was going to be quite high. I planned on going well into the first turn area to ensure I didn't run out of distance later in the day.

After launch the climbs were already six to seven knots to 7,500ft, and while doing the usual search for any possible thermal wave I did find weak lift that I could use to get a further 1,000ft, which is where I started. I did feel a little smug, as the lift was only about one knot, which meant that the ASW 22 was probably the only glider there that could make use of it! Almost like cheating really…

The first glide out was useful, as I noticed that the altocu was beginning to show signs of being connected to the ground thermal sources and becoming cumulus. One steady climb to 8,000ft again kept up the momentum, but towards Rankin Springs I found a solid eight to nine knots all the way up to

Gliding on the Ground – the Crew's Perspective

Jo Pocklington, Lyn Ritchie and Michele Andrews

Life as crew can be exciting, fun, tedious, dirty, hot, windy – and companionable.

Going to competitions is far more special than weekend gliding. We meet people who we normally wouldn't ever meet – from different states, different countries, different vocations and different walks of life. All become mates for the competition, and some become lifelong close friends.

We get to visit places off the beaten track; places that if travelling by car, the pilot wouldn't stop for more than fuel.

Yes, it is hard work being at the whim of easily-grumpy pilots in top gliding conditions, which make life on the ground uncomfortable. But there's always some time to relax, once the pilot is on his way. Sleeping, reading, swimming and just doing those things you haven't had time to catch up on at home, like having a massage.

At the end of the day, crews should make sure that their pilot appreciates them by spoiling with drinks on command and dinners out. And the pilot must always count his glasses and drive the crew around (only, of course, so that the pilot is in top condition next day – another crew sacrifice).

The competition is important but doesn't interfere with our helping each other and helping each other's pilots. And there's jobs to be done helping the comps organisers, who are usually grateful for extra hands, eyes and ears.

At the end of the competition we've had good times with our pilots, working together as a team, no matter which end of the ladder they finish.

Gliding on the ground is full of life's experiences – some very good and some not so good, but well worth trying.

Wendy Medlicott – the voice of the start and finish lines

Colin and Evelyn Turner recording details of an outlanding

Joy Shirley worked tirelessly to produce verification reports and scores by about 8 pm each day

The Best of Country Service

On day five, Benny Orrsater (from Sweden) outlanded near Ardlethan. On his return to the airfield, he realised that he had lost his maps and other papers. About 11 o'clock the next morning the local postie arrived at Temora and delivered Benny's maps, etc. A farmer had found them in his car and had given them to the postie with directions to find Benny at Temora!

10,000 ft. I watched carefully my position in relation to the cloud above, as it seemed I was a long way out on the western side of it. This was useful for the rest of the flight. I went about 30km past Rankin Springs before turning downwind for Coolamon.

It always takes a while to settle into flying a new direction, and today was even more so. It was difficult to search for the next climb when the lift was displaced so far from the cloud, but after a short period of frustration I connected with a couple of good ones. Ground speed was high with about 15kt on the tail and working between six to 10,000ft. This leg went very quickly, but some quick sums said that I didn't need to go further than Coolamon to fill in my time. Just before Coolamon I found a 10-knotter.

The sky looked slightly overdeveloped as I turned north for Aleena. As I was high and had already had a good run, I decided to back off a little and stay in contact with any good clouds that were left. About halfway along this leg I saw the Bergfalke climbing and joined nearby in about six knots, which I figured was probably the best around. I took this climb well above the height I needed to get to Aleena and home, and then used the extra to run past the turn until the glide was right on the numbers. By now the sky was dying rapidly and I had been rained on lightly a couple of times. I had a little scare on the way home as I ran through some heavy sink that dropped me below glide, but managed to fly carefully under some ragged cumulus and pick it up again without having to stop.

Speed off the stick was 133km/h, which came back to 108 handicapped. An interesting day, quite fast, but not always easy.

COMPETITION DAY 4 – 17 JANUARY

Assigned Area Task: Four hours
Grong Grong–Cootamundra–Forbes–Temora
(Mean 457, Max 694, Min 184)

1 Rolf Buelter – PIK 20b	109.63km/h
2 Hank Kauffman – ASW 20B	108.81km/h
3 Bruce Taylor – ASW 22BE	106.18km/h

Winner's comments:

I have been attending the Club Class Nationals since 1995 and, while in recent years I placed quite well overall, I had never won a day. That was to change on competition day four. David Wilson, our capable weather forecaster, had promised a good day, and a four hour AAT was set – Grong Grong, Cootamundra and Forbes were at the centre of the assigned areas with radii of 50, 30 and 50 km respectively.

I launched at 13:20 and reached 10,000ft 30 minutes later. Around this time the first cumuli formed north of Temora, their bases approximately 12,000ft. When the start gate opened at 14:15 they were well developed north of the first leg towards Grong Grong. I elected to fly towards Ardlethan, 45km north and at the periphery of the circle. Progress along the edge of the clouds was not startling but good at 87km/h considering a 15kt headwind.

There was a 15kt tailwind on the leg to Cootamundra and the climbs were getting stronger, edging towards 10kt. On this 120km leg I accepted only two thermals from 8,000 to 10,000ft and for the vast majority of the leg the PIK was cruising between 60 and 110kt. I have never in my glider pilot life flown a faster average speed than this, 170km/h for the entire 120km distance. I turned 15km south of Cootamundra 1,000ft higher than I began at Ardlethan. It was exhilarating, pure racing and I was obviously delighted with my progress.

The next section was more subdued. I was flying across the streets now and moderate overdevelopment meant longer stretches between them. The weather changed two-thirds down this leg; a trough line was approaching from the west and the north-east was blueing out. My course now took me from Grenfell along the curved trough overhead Forbes. I was still 4,000ft above ground with no risk of outlanding (yet). I messed around a little before finding a four knot climb back to 8,500ft, a far cry from the previous glory. It was difficult to adjust to the changing conditions and I had to caution myself: *"Slow down! Don't dash off and leave three knots to find that elusive 10-knotter!"* – always with the nagging thought that better pilots would find it. From the radio I could hear others in similar situations, the big climbs seemed to have disappeared.

Some competitors were grovelling, a fate I had avoided so far by keeping myself above 5,000ft, but the sunny spots on the ground were getting rare. Arriving west of Grenfell,

National Competition Safety Committee Reference Papers

Most aspects of the following papers are relevant to normal club operations and are highly recommended reading for all soaring pilots. They are available on the GFA website at [www.gfa.org.au/comps/ncccompsafenotes.doc].

- Nutrition, Dehydration, Hypoxia and Recovery, by John Buchanan
- Optical Factors in Collision Avoidance (or Good Lookout is no Accident), by Harry Medlicott
- Joining Thermals, by Bruce Taylor
- Bail Out When You Have to, by Daryl Connell
- SARwatch, Outlandings and SAR, by Stuart Ferguson

Phil Ogan's daughter, Louise (aged 12) helped out each afternoon by ferrying dataloggers and disks to and from the verification room

3,000ft short of final glide I was under an almost closed sky with nowhere to turn but home to shorten the seemingly inevitable retrieve. After only a few minutes under eight-eighths cover I felt more than just a bump. Broadcasting my position, I was joined by XON first, then for a few turns by BB. At 9,000ft we had heaps to spare and set out for the last dash home. Halfway, a little rain forced me to slow down: the PIK is a brick with water on the wings. Hank in BB pulled ahead but I didn't mind too much – I was just too relieved that my expectation of an outlanding was premature.

It was a wonderful flight, from super fast racing to a cliff-hanger last leg until final glide was attained. For me – this is soaring.

COMPETITION DAY 5 – 19 JANUARY

Assigned Area Task: Three hours
Weethallie–Coolanom–Temora
(Mean 271, Max 441, Min 116)

1 Bruce Taylor – ASW 22BE	83.58km/h
2 Phil Ritchie – DG 200	77.23km/h
3 Tom Gilbert – Std Libelle	75.51km/h

Second place pilot's comments:
The day five forecast looked okay, reasonable climbs, 6,000ft and blue, not too strong so an opportunity for the DG 200 and myself to score some good points. Well it didn't quite turn out as good as I'd hoped. I nearly needed a re-light after the start gate had opened and from then on I was constantly worried about outlanding. The first leg, towards Weethallie, started to give me some of my confidence back, stringing together a few six knot climbs and good cruises between thermals. The first turnpoint arrived and I saw my first glider on track. I decided to turn so that I could fly with someone else – always a good idea on low blue days with thermals that are difficult to find. We worked independently of each other, keeping a close eye on conditions in the other pilot's bit of sky, unfortunately it was bad everywhere. On the second leg, towards Coolamon, I wasn't able to find any good climbs unlike the first and it wasn't going as high, but I still managed to make moderate headway against a quartering 15-20kt headwind. I was taking the occasional slow climb to keep clear of the ground and so avoided taking any really slow climbs. It was hot work close to the ground and taking a lot of climbs, so I was looking forward to the three hours coming to an end. Eventually I figured it was time to turn and was looking for one good climb to get me home. The last leg was virtually down wind and I wasn't able to get any solid climbs so I took a few slow ones – since I was being blown home I was grateful for what I got. I was extremely grateful to get home and even more so when I learnt that a number of gliders were on the ground out on task. Bruce Taylor beat me, but most of us are used to that so a second place was very welcome.

Two Geelong Gliding Club pilots (let's call them B and R) were sitting around the barbecue having a quiet ale, and discussing how they were going in the competition. Up to this point five competition days had been flown. B had landed out twice, and this was of course reflected in his score.

B's wry concluding remark was: *"Of course it's flying like mine that places me towards the bottom of the field, that benefits the likes of yourself, and allows you to be placed up there in the top ten!"*

COMPETITION DAY 6 – 24 JANUARY

Assigned Area Task: Three hours
Caragabal–Weethallie–Aria Park–Temora
(Mean 275, Max 432, Min 138)

1 Scott Lennon – Discus A	117.40km/h
2 Peter Buskins – ASW 24E	116.88km/h
3 Terry Cubley – DG 300	116.57km/h

Winner's comments:
As this was my first nationals' day win, I was very keen to find out how it happened. To start with, an outlanding midway through the competition left me with a 'go-for-broke' attitude on the last day. Despite Team Kilo (Tom and Nick Gilbert and myself) leaving early in the pack with many higher performance ships behind us, I encountered very few other gliders on task. It was definitely a stay-high day chasing the best line up of clouds towards the next assigned area. Many people were reporting nine knot thermals on the radio but I was only finding up to five knots. Although troubled by this I had to make the best of what I was finding. The

A New Competition Task – the OUT

Monday 20 January was characterised by a heavy smoke haze. At the daily briefing, in addition to the normal assigned area task (AAT), a new type of task was set as task B. Task A was cancelled, with the few gliders airborne reporting convection only to 3,500ft and visibility of five nautical miles (and sometimes less).

In his operational overview on 22 January, Col Turner, competition director, reported on the new task as follows:

"You may be surprised to learn that we had enough finishers to B task yesterday to declare a valid competition day. Task B was in fact a new type of task called an OUT task – an Optional Unassigned Task. With this type of task we give pilots the merest hint of what to do and they are expected to second guess the tasksetters.

There were no bonus points for getting the first turnpoint right – the Forum 6 cinema complex in Wagga Wagga – after all, the clue we gave you said 'Movies in Wagga Wagga'. However, I was surprised at how many pilots got the second unassigned turnpoint right – La Porchetta restaurant – to earn significant bonus points.

The day proved to be a slow one with all pilots exceeding the three hour task time, most not returning to Temora until well after sunset. We have put some loggers through verification, however we have run into a problem: none of them are showing a valid track for the return leg. When you think about this, it becomes obvious – the return leg was at night and it was a pitch black night. It stands to reason that if the satellites can't see you they don't know where you have been.

Anyway, to put to rest the minds of those pilots who did not attempt the task, the only points you can earn on an OUT task are called Brownie Points and you need literally thousands of those to earn just one competition point!"

first and second legs seemed good so the flight was extended deep into the assigned areas. Just before turning for home, 20km past Weethalle, I had my best climb for the day at six-and-a-half knots and went another 10km to ensure I did not arrive home too early. The final glide was consciously started at about 72km out with a 2,000ft deficit. This was made up with pull-ups and a single turn at 38km to run before racing another Libelle to the line just for fun. I was genuinely surprised by the verified speed on the day, as I was not flying excessively fast or climbing in very strong thermals. Later analysis from 'SeeYou' indicated a total of 23% thermalling time in 5.3kt average. This accounts for less than half my height gain as most was gained by slowing down in lift. I managed to more than double my L/D ratio in the glide to achieve 42:1 at my 83kt average cruise speed. I think the decision to stay high and just cruise slowly through the cloud streets was the key to success.

The winners: Tom Gilbert, Terry Cubley, Mike Morris, Jarek Mosiewski, Mark Laird (standing). Scott Lennon, Ian McPhee, and Rolf Buelter (kneeling)

The Winners: [Suzy pilots yet to be identified]

Weather for the Temora Club Class Championships

David M Wilson

Temora in January has a reputation for providing some of the best soaring conditions you could wish for.

The town is 950ft asl and about 120km west of the Great Dividing Range which separates the coastal region from inland New South Wales. Normally it is surrounded by wheat growing country, which in January would mean paddocks with wheat stubble after harvesting. However in this drought year, the paddocks are mostly fallow with either bare dirt or the remains of the previous year's stubble. The soil is so dry that by about 11am the sun's heat makes the soil surface more than 20ºC hotter than the air above it, and thermals of more than 13kt were experienced on the good days. Thermals have also been marked by many dust devils from the bare paddocks.

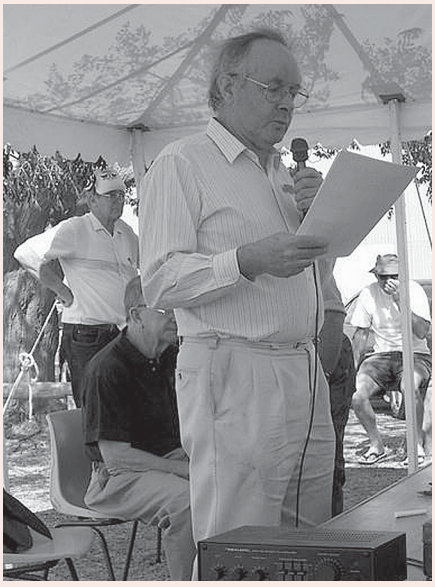
The early morning wind at Temora is usually a shallow easterly, a katabatic wind set up during the night as the air in the higher country nearer the Great Dividing Range cools and flows down the gentle slope towards Temora. The overlying geotropic wind takes charge at about the time the first thermals pierce the shallow katabatic layer.

Driving up the Hume Highway towards Temora on Friday, 12 January, a bushfire seen on the flanks of Mt Buffalo was an omen of what was to come. Major fires in forests from Sale through the Victorian Alps, the Snowy Mountains and the forests around Canberra burnt unchecked through the first week of the contest, with the smoke restricting visibility to the south and east. Saturday of the first week saw a dreadful day, with gales and blowing dust. The fires took off to engulf parts of Canberra, with several competitors lucky not to lose their homes. Smoke from these fires persisted in the area, causing loss of flying days during the second week.

For the compulsory practice day on Monday, 13 January, a strong high pres-sure system in the Tasman Sea between Tasmania and New Zealand produced an easterly stream, with rain and low cloud on the coast near Sydney, but dry conditions west of the Divide. Similar conditions persisted for the first few days, with a series of weak troughs crossing the inland area producing instability and good flying conditions, gradually improving as the high pressure moved north east, swinging the winds around towards the north.

Friday, 17 January was the outstanding day, with the morning temperature trace indicating thermals to about 14,000ft above Temora, with clouds to mark their positions. A four hour task was set, with some competitors completing over 500km on that day. Competitors were reminded by the start radio of the dangers of oxygen starvation for prolonged periods above 10,000ft. The maximum temperature in the task area that day was over 42ºC.

The trace for 18 January promised similar conditions, but a frontal system brought first cloud over the airfield at launch time, then the blowing dust and strong winds mentioned above, and the day was cancelled. The front only affected the air up to about 6,000ft, with the upper air remaining as hot as it had been for the previous few days.



Weather "guru" David Wilson briefing pilots on what they can expect out on the course – and why

Sunday, 19 January was flown in difficult post-frontal conditions, with very strong southerly winds, and thermals going to only about 6,000ft. The thermals were marked by dust devils which, unusually, sloped dramatically with height due to the wind shears. Smoke from the fires rolled in to Temora about 7pm that evening.

The competition then had to wait, losing four days due to a combination of dense bushfire smoke and very stable air. Tasks would have been possible on three of these days, but for the danger of flying in smoke so thick that you could only see for a distance of about seven kilometres.

The final day saw a return of the northerlies, blowing away the smoke and providing an extremely hot day.

LOCKOUTS – TAMING THE BEAST

James Freeman

LOCKOUT. A WORD TO SEND A TINGLE UP EVEN THE MOST GUNG-HO PILOT'S SPINE. BEFORE WE GO ON TO LOOK AT LOCKOUTS IN DETAIL A BRIEF DESCRIPTION OF THE THEORY BEHIND MODERN TOWING WILL BE OF GREAT BENEFIT.

Sub-ed note: *We published this article three years ago, but consider it worthwhile repeating. New pilots join the HGFA each year, so many will not have seen the article before, and as towing accidents still occur, involving the not-so-new pilots as well as the new, we could all do with a reminder of knowledge that could save our lives.*

We all owe a lot to Donnel Hewitt, a physics professor and pilot, who in the late seventies and early eighties applied his mind to the physics of towing a hang glider. I will define the term "on line" as meaning having the nose of the glider pointing towards the end of the tow rope furthest from the glider being towed. "Off line" therefore means having the gliders nose pointed anywhere else.

What Hewitt did was analyse the problem of towing a hang glider and devise the familiar V-bridle system (amongst other things). Up until this point hang gliders were mainly being towed with a rope attached to the base tube (or some other part of the glider) which in engineering terms formed an unstable positive feedback system. Sure it worked, but it required constant pilot input to keep the glider on line. In Hewitt's system, as soon at the glider got off line the pilots body was pulled across the A-frame by the tow line, resulting in a turn back towards the on line condition. This was a brilliant innovation as it introduced negative feedback to the system making it stable, or at least less unstable depending on the characteristics of the glider being towed.

The exact mechanics of how the Hewitt bridle actually works are surprisingly complex. Under tow the forces acting on a glider ARE NOT the same as in free flight. It follows that the higher the tow tension the more different the glider's handling will be under tow. The mechanism whereby a glider is turned back on line by the Hewitt bridle **is not weightshift.** The movement of the pilot's body across the A-frame caused by the tow tension (although it might seem like a weightshift) does not cause the same forces as a weightshift in free flight, although its ultimate effects are similar, ie, the glider turns. The dynamics involved are complex and include keel movement/billow shift, side slipping, yaw roll coupling and yaw stability. Under tow, weightshift as we understand it in free flight only occurs from a neutral position defined by where the pilot's body is pulled by the towline. An unfortunate result of this little understood fact is that the further your body is pulled off centre the less the available weightshift authority in the desired direction. Moving your weight from this neutral position does cause a weightshift control response exactly the same as occurs in free flight, except that the increase in your apparent weight caused by the towline tension will amplify the response. By way of example, say you are in a right turn on tow. To correct this you need to weightshift left. Unfortunately the tow line already has you pulled over to the left so your available weightshift to the left is actually reduced – the more off line you get the less ability you have to correct this condition as your available weightshift authority in the desired direction steadily decreases. To further complicate matters, under tow there is a completely new element introduced – this is yaw. In free flight yaw plays a minor albeit important role. The yaw force that a pilot can apply is quite limited. Even if you might not recognise it, the act of leading with your hips when applying a weightshift input in prone also applies a yaw force to the glider – to shift your hips right you must push with your left hand and pull with your right. But now consider this: what would happen if you attached the tow rope to the bottom left A-frame corner? The glider would go spearing off to the right, of course. Now consider what happens under tow if you put both hands on this same point and braced your arms. You are now redirecting a significant part of the tow force to the left hand side of the glider and producing a big yaw. The magnitude of this yaw is potentially far more than can be applied in free flight. For a glider under tow there are several points you need to note:

1. *Glider handling on tow is different to free flight, and the higher the tow forces the more different it is.*
2. *Available weightshift control authority decreases when you need it most.*
3. *You have a new control element to deal with – yaw input.*

We can now begin to appreciate some of the potential problems with the Hewitt bridle tow system. If the glider gets too far off line the V-bridle or pilot's body may come into contact with an upright or wire. At this point a problem occurs because the towline tension force starts physically levering the glider into a turn. The direction of this leverage force is the exact opposite to that which is desired to correct the off line condition. Initially, sufficient weightshift/yaw authority may be available to cancel out this physical leverage effect – this is what I call an incipient lockout and generally occurs when the glider gets more than about 30-40º off line. If the glider continues to become more off line, at some point the system passes through being neutrally stable to become an unstable positive feedback system. This is the point where the shit hits the fan and a true lockout occurs.

We can now define what we mean by a lockout. A lockout occurs when a glider becomes turned away from the towline direction and reaches a point where the pilot cannot recover because he/she is unable to exert sufficient force via weightshift/yaw to counter the effect of the tow tension. A lockout may also occur if a wing tip (or the whole glider) remains in a stalled condition although this is perhaps more correctly a spin on the towline with the towline forces simply exacerbating the situation. A third and somewhat unusual form of lockout can occur it the glider overflies the towline, this will result in a steadily increasing dive as the tow tension pulls the bar in.

You should also now be able to understand that the towline forces in a lockout need not be very high. They only need to be sufficiently high to cancel out the effect of a maximum pilot weightshift/yaw in order to cause a continuation and worsening of the situation. Lockouts can, and do, both occur and continue without ever exceeding normal

tow tensions. As a result **a weak link offers little protection from a lockout.**

There are two distinct and different processes involved in the development of a lockout.

Firstly, to initiate a lockout the glider must be turned away from the towline direction. The reasons why this may occur include:

1. *Stalling a wingtip.*
2. *Secondary to severe turbulence, probably causing 1.*
3. *Inappropriate pilot inputs in terms of type, timing and magnitude.*
4. *The development of yaw roll oscillations, usually due to 3.*
5. *When launching in strong crosswinds which prevent the nose being pointed on line (towards the tow vehicle).*
6. *Crabbing on tow trying to lay off the drift and keep the rope over the tow strip in strong crosswinds.*

Secondly, once the glider is turned sufficiently from the towline direction the bridle or pilot's body will come into contact with an upright or wire. As detailed above this bowing will cause a roll force in the opposite direction to that which is required to correct the incipient lockout and turn the glider back on line. The forces applied by the towline may quickly exceed the pilots yaw/roll control authority and the lockout will rapidly worsen.

Experience leaves no doubt that there is a point of no return. Once this point is reached the only solution is to release. Prior to this point the pilot can often salvage the situation by pulling in to simultaneously reduce both the angle of attack (correcting any tip stall) and the tension on the towline and applying a full weightshift/yaw. The pilot may also be able to get the tow operator to reduce tow tension (this is easiest for winch and static tow, may be possible with monitored platform tow, but is not really applicable to aero tow). The combination of reduced towline tension, lower angle of attack and strong weightshift/yaw **may** allow the situation to be salvaged.

So here is the bottom line. When the bridle or your body contacts an upright or wire you are approaching the point of no return. At some point the forces exerted by the tow line will exceed your available control authority. If this situation is not corrected a full blown lockout will ensue. The **only** solution at this point is to release.

The biggest fallacy in towing is that a weak link will protect you from a lockout. For ground towing this is wrong. The tow line force required to break the weak link is roughly 2-3 times the force required to sustain a lockout. I have seen this demonstrated on numerous occasions. As a result you could potentially continue a lockout all the way to the ground without ever breaking the weak link. If you have ever seen a child's kite lock out and arc into the ground you should intuitively understand this. Yes, the weak link **may** break, but remember all sound ground tow systems are designed to control the tow tension below weak link breaking point. In a lockout your winch and/or driver will actively be working to maintain a normal tow tension below the weak link breaking point. You **cannot** rely on your weak link to break. In a lockout your only option is to release. I have heard it suggested that you get the driver to floor it to break the weak link when locked out using static tow. In my experience a weak link break in a locked out vertical dive usually results in a loop, followed by a wingover and then a massive stall. I'd prefer to release personally. On aerotow a weak link will limit the duration of a lockout because the short rope and lack of direct tension control gives less scope for the glider to diverge from the appropriate flight path – of course you could still hit the ground before the weak link breaks.

Moral: Lockout = Release

Okay, so now we understand the beast, how do we tame it and make sure all our tows have a happy ending with us thermalling off into the sunset?

CAUSES/PRECIPITANTS OF LOCKOUTS – TIPS ON TAMING THE BEAST

High tow tension

High tow tensions increase the undesired opposite roll effect as we approach the point of no return. They also introduce the element of a pilot induced yaw force as discussed above, making the handling characteristics of the glider different to those found in free flight. Lower tensions allow us to tolerate the glider being off line to a greater degree before the forces from the towline exceed our weightshift authority. So how much tension do we actually need to get airborne? The answer is, not much. Typically we calibrate our static tow gauge to 1G by the highly sophisticated method of attaching the gauge to a convenient high point and then suspending one pilot plus one glider plus one harness below. Marking the hydraulic gauge give us the 1G point. We mark the gauge with a blue working range of 0.4-0.8G. Now for a typical glider with a L/D of 10:1, the amount of drag we need to overcome to create 1G worth of lift is only 0.1G. Add a bit extra for some climb and a towline tension of 0.3-0.4G is more than ample to get us airborne. The critical phase of tow flight is when we are low, because a lockout down low can make recovery difficult before ground impact. Keeping tow tensions around 0.4G when low will give us a good climb whilst maintaining the best possible ratio of weightshift authority to tow force in the event of an incipient lockout. Under low tensions the glider handling is more like that in free flight, so inappropriate input and over control problems are reduced.

In static line towing your driver can give you too much tension down low. They can potentially kill you, so teach them well. Stress the importance of their role in keeping tensions at safe levels down low, and treat them with respect. They really do hold your life in their hands when you're below 100ft. Similarly, with a payout winch you depend on its correct function to keep tensions at safe levels.

High angles of attack

Too many pilots take off on tow at low airspeed and a high angle of attack. I'm sure you've seen them – three steps, shove the bar out, dive into the harness… We all know the benefits of extra airspeed/low angles of attack on take off as it gives us better roll authority in the potentially turbulent air near the ground and helps prevent a tip stall. It is important to understand that a foot launch tow take off is completely different to a hill launch. On a hill you are rewarded for a strong take off run. On tow a strong run will remove the towline tension so a different (more lazy) approach is required. The concept we teach is "let yourself be towed." By let yourself be towed we mean let the towline control your direction and acceleration. Initially shuffle along, then break into a trot. At this stage even in light winds the glider will be flying and taking its own weight. As the tow continues the key is to fly the glider level with the ground. Correctly executed this is great fun as you get to do a moonwalk as you take impossibly large steps as the glider accelerates. This moonwalking can be continued for as long as you need to build up a good reserve of airspeed. A gentle relaxation of the pressure you have been using to hold the bar in allows the glider to smoothly climb away from the ground.

If you can't master this technique, use a launch dolly in light winds. Once again do not come off the dolly until you have built a good reserve of airspeed which you can use to soar clear of the ground. The technique I use is to hold the bar at my chest until the glider starts to feel very light in the dolly (ie, it is flying at bar to chest speed and

lifting my weight). Building this reserve of airspeed before exiting the dolly also helps prevent the precipitous drop in tow tension which can occur as the glider accelerates due to the loss of drag from the dolly and the elasticity of the tow rope. This drop in tension is usually followed by a period of excessive tension as the driver floors it in response to your desperate go-go-go-GO as you sink back towards the ground, usually still in prone. If this regularly happens to you, you 're exiting the dolly too early.

Turbulence

Towing = Flatlands = Thermals = Turbulence. Okay, so it's hard to avoid turbulence completely, but you can minimise its degree and effects to suit your skill level. We get mechanical turbulence from wind, shear turbulence from shear layers and thermal turbulence from thermals. When learning to tow a light dawn breeze is perfect, whereas 3pm on a windy summer's day is sub optimal.

Interestingly, the best time to tow when you are trying to catch a thermal is when the winds are lightest and the mechanical and thermal turbulence are at their smallest. Why so? Well, every year at the Flatlands competition some pilot will relate the same sad story to me while crying into his pretzels at the bar. It goes like this:

"How did you go today?"

"I can't f#####g believe it, I had eight tows and couldn't get out of the paddock!"

"Oh, I suppose you were waiting for a bit of wind to launch in?"

"Ah, yeah, how did you know that?"

It's simple really. When a thermal lifts off the surrounding air must rush in from all directions to replace the rising air – let's call this the thermal filler wind. Wind is just moving air so what we experience at launch is the combined effects of the prevailing wind and the thermal filler wind. The wind we get depends on whether the prevailing wind and thermal filler wind are cancelling each other out or enhancing each other. What this means is that if there is a light prevailing wind, and you stand in a tow paddock when the wind is light/tail, there is a thermal out in front of launch. If the wind is very crossed then there is probably a thermal off to the downwind side of you. When the wind is blowing strongest it is because there is a thermal behind you. So if you tow at this time you tow in the sinking air between thermals and not only get a dud (low) tow but also don't find a thermal because the next one is probably still ~2,000m upwind. Moral: tow when the winds are lightest to maximise your chances of jagging a good thermal out in front. Yes, this does mean on light wind days the optimal time to tow is when it's tail. This is where a dolly comes in handy. One cautionary note: don't take off in a stronger tailwind than you are willing to land in, because you just may have to. Of course, by using a moderate tow tension down low and a 1G weak link this should rarely be an issue.

A very useful technique we use is the 200m windsock. This is a windsock placed directly upwind (which is not directly up the strip in a crosswind). In conjunction with a 50m windsock it allows you to "see" that critical parcel of air which you must fly through to get to a safe altitude. These windsocks show the character of the air you will meet on tow in the first critical 100-200ft. It makes no sense to me to have a windsock just in front of you on a tow strip. You can feel this wind on your face and by the time you do it is gone and of little relevance to your tow. What you need to know is what that air out in front is like. Put out a 200m windsock and avoid any nasty surprises like "invisible" dust devils – you will see your 200m windsock doing circles well before a dusty ever arrives.

Overcontrolling/oscillation

Under tow the towline tension increases your effective weight and hence enhances your glider's response to a given input. The increased effectiveness of weightshift under tow necessitates making smaller corrections than you might expect. You also have the addition of a new ability to yaw the glider. Experience has shown that the original 2:1 Hewitt bridle makes overcontrolling more of a problem than the current 1:1 V bridle. This is simply because the 1:1 system applies less of the towline tension to the pilot, hence the pilot's control inputs (weightshift and yaw) are not as enhanced as with a 2:1 bridle (which apples twice as much of the towline tension to the pilot compared to the glider). While distributing the tow force in a similar manner to gravity with a 2:1 bridle makes nice theoretical sense, in practice 1:1 just works better.

Some gliders are more prone to overcontrol/oscillations than others. Increasing oscillations will invariably lead to a lockout. As a rough guide from best to worst we would have: floaters/open crosstube gliders, sport/intermediate gliders, square tip high performance gliders, curved tip high performance gliders, latest generation topless gliders, early generation topless gliders.

It makes sense to learn your basic towing skills on a docile easy to tow glider and work your way up. You can pick conditions to make the task easier as discussed above. If the option is available I would advocate flying your new high performance glider off a hill and getting used to flying it fast without oscillations before towing it.

Keeping tow tensions low, making moderate inputs and waiting for a response, and slowing the glider down can all help to minimise problems. Utilising the available yaw force comes with practice. For aerotowing both Quest Air and Wallaby Ranch emphasise a lead with your hips approach for control inputs under tow – this is simply a practical explanation of: *"Use the (yaw) force Luke."*

I have found pulling some VG on (1/4-1/3) works well to damp out oscillations on the Xtralite and CSX. Of course, you are sacrificing a little roll rate when you do this and potentially making the glider more prone to a tip stall. Any VG seems to make my Litespeed tow worse, but fortunately it is far easier to tow than my old CSX anyway.

Crosswinds

Crosswinds are the most underrated risk in towing. Consider a high performance glider launching in a strong crosswind. The glider will want to yaw into the wind. If the pilot starts the tow without the nose of the glider pointing into the wind here is what must happen. Initially the tow bridle is probably touching the uprights/front wires (incipient lockout). As the glider accelerates down the strip the change in the relative wind causes it to yaw/roll around toward the towline. Okay, so this is good, but this yaw/roll must be countered by a pilot input due to the inherent yaw/roll instability of modern designs. So to counter the yaw/roll the pilot high sides the glider. At the same time he/she may well be pushing the bar out to get the glider to take off because even though the wind is strong because it is crossed the useful headwind component is small and this is effectively a light wind launch. For those of you who don't know, high siding a glider in a shallow bank and pushing the bar out is the exact technique required to make a high performance glider spin. Add a bit of turbulence… Get the picture? Crosswind take offs are dangerous. My rule of thumb is that if I can't get the glider's nose to within 10-20 degrees of on line (ie, pointing down the strip) the cross wind is too strong. If the wind is so strong and crossed that the tow bridle is touching the glider you are asking for trouble.

Okay, so we get airborne all right. Hey, hang gliding is pretty forgiving really. To drop the rope on the strip in a crosswind requires that we crab. Crabbing on tow puts us much closer to an incipient lockout than I care to be, as the bridle is often already

touching the upright/front wire. Keeping on line and allowing the glider to drift downwind is **much** safer. If you must crab do it when high and know the risk. Down low keep the nose on line and accept the ensuing downwind drift.

Instruments or other obstructions on the base tube

Placing instruments on your base tube when ground towing is inviting a lockout. The reason is simply that the bridle no longer needs to contact the upright or front wires to exert leverage in the opposite direction to that which is desired – your instrument mount will do just fine as a fulcrum. In effect you have wound back the clock by twenty years and are now effectively towing off your base tube. Similarly, the rubber grip material on some base tubes has also been proven to cause problems. We discovered this at our school when a course of students experienced unexpectedly frequent lockouts, always right at the top of the tow. Examination of the base tubes of the brand new floater gliders in use showed that the manufacturers recent addition of rubber grip material to the base tube was causing the top bridle line to grip the base tube at the top of the tow. Scuff marks were evident on the rubber. After taking these rubber grips off, the top of tow lockout problem completely disappeared.

So the keys to avoiding lockouts on tow are simple:

- ***50m and 200m windsocks to "see" that vital parcel of air.***
- ***Low angle of attack and adequate airspeed, especially down low.***
- ***Keep tow tension low until a safe altitude is reached.***
- ***Train and respect your driver and maintain your tow gauge/payout winch.***
- ***Avoid overcontrol and oscillations by picking suitable conditions and gliders for your skill level and making moderate inputs and waiting for a response.***
- ***Avoid gnarly conditions; pick the light wind bits to maximise both safety and thermal prospects.***
- ***Beware of crosswinds.***
- ***Stay pointed on line.***
- ***Incipient lockouts may be corrected but there is a point of no return.***
- ***When in doubt – RELEASE.***

GET A BIG GREEN ONE UP YA'! – Part 1

Brian Lowry

HAVING BEEN APPOINTED DUTY PILOT FOR THE DAY, WE FINALLY LOADED UP AND MADE OUR WAY TO BEN MORE. I WAS WITH TWO LOW AIRTIME PILOTS AND AN EXPERIENCED PILOT WHO HADN'T FLOWN THIS SITE BEFORE. AS I HAD FLOWN THE SITE BEFORE, THAT QUALIFIED ME TO BE "IN CHARGE".

After two missed turn offs to inspect the landing paddock (it was green the last time I was here…) we arrived at launch to 15kt gusts straight up the face, with worrying south-east crosswinds kicking in. The wind would straighten and drop back to five knots, which in my opinion made it launchable. The day was cloudy and had a 'wintry' feel to it, which isn't unusual around here. There was a white haze off into the distance. I was relieved that the wind was not too strong.

After this survey, I wheeled around to tell the others the good news, to find gliders already being set up. Could my companions also have been 'appointed' to some position of authority somewhere between Andy's Café and the top of Ben More without me knowing? I bloody well think not! A quick phone call to the advanced local pilots flying a nearby site, who earlier in the day had done the 'appointing', informed me of lighter conditions. Getting the others together I confirmed my prognosis and, as 'duty pilot' demanded a bit of respect while on top of the hill. They all looked at me blankly and wandered back to their gliders…

At this point a dilemma had presented itself? Should I launch first and show the way, or get a novice off the hill in reasonably challenging conditions and advise him over the radio? To add the tag of 'instructor' to my increasing list of responsibilities that afternoon was not something I was at ease with. I'm okay with launching, flying and landing myself, but no two pilots are the same, right? Pilot duty, Duty of care, Heavy duty, Moral duty, Jury duty, Ian Dury… I pondered over this for, oh, seconds, before yelling out *"Okay Harry, clip in mate…"*

We covered launch procedure, flying envelope and landing approach before Harry got away. He got nudged around a bit and straightened up each time, which eventually pushed him through the lift zone and out to the landing paddock. I launched next, with a bit more speed on, and was soon joined by Chris. After spending most of the summer flying in the washing machine that is the 'bowl at Mystic', I was really enjoying the ridge/thermal lift flying and especially the not landing in five minutes bit… We were climbing and sinking away for some 40 minutes or so when Harry came on the radio requesting an explanation of why he had landed so soon. What had he done wrong? Now being 'off duty' on account of the fact that I was airborne, I casually told him that he was crap, he should give up hang gliding unless he could get to 55 hours, 130 flights (including 93 sleddies) and change the colour of his kingpost streamer, like me… as I pulled a big arc of a turn after a long ridge soaring pass, then it happened…

Next month's issue will conclude with either:

a) a 112km cross country flight followed by molestation from a lonely farmer's daughter,
b) a tree landing, or
c) getting punched out by Harry who's grown very attached to his red streamer.

THE VGA/BVGC RALLY
Stonefield, SA – January 2003

Syd Wright

THE FOURTH TO 11TH OF JANUARY HAD BEEN PROMINENT IN OUR DIARY FOR THE LAST 12 MONTHS. AS THE TIME GREW CLOSER A FEW LAST MINUTE PREPARATIONS WERE ALL THAT WAS NEEDED BEFORE THE RALLY BEGAN. OUR "VINTAGE FRIENDS" (NOT RELATED TO AGE) WOULD SOON BE HERE.

Most of the hard yards had already been done for the 2002 rally but, as always, there were still things to improve on. Kevin Sedgeman was our mentor in this capacity. It became evident last year that shade at the launch point was a big issue for pilots and crew. A mishap during the year with our pie-cart saw it stripped down and converted to a mobile shade unit and combined control area. Problem solved. The outdoor pergola/shade area hopefully would also prove its worth in catering for the extra numbers that were expected this year. The bunkhouse had been improved from basic to comfortable with the inclusion of carpets, curtains and privacy screens. However, all of this was to be eclipsed! A small patch of greenery, the only one for 30km, would become prime real estate when looking for a tent site.

As the convoy of cars started arriving it was time to welcome old and new friends alike.

The weather was more consistent this year. The prediction of wind and **more** dust were a daily occurrence. Despite this we still managed to fly six of the seven competition days.

Sixteen gliders vied for trophies and competition points. As usual, a friendly competition and a no-nonsense scoring system established the worthy recipients. A notable entrant was Leigh Bunting and his recently restored Grunau Baby. With immaculate presentation Leigh's glider was awarded the Concourse D'Elegance – the best glider overall for the rally. It was also pleasing to note a greater representation from South Australian clubs and vintage owners this year.

Another observation I made was the fact that the majority of vintage owners were on the younger side of 55. This augers well for the longevity of the VGA. It would be a shame for these matriarchs of the sky to become static displays, and gather dust in some museum.

A few of the pilots attempted to fly their gliders home after the rally, demonstrating that high performance machines are not the only ones able to set goals. Realistically they are all relevant to what we fly.

Notable events at the rally included presenting Kevin Sedgeman with Life Membership to the GFA. Presenting Ged Terry with his key to Australia was acknowledged with a range of "ocker-isms". For those who may not know, Ged is of English descent and passport, and for the last 21 years has not missed a VGA rally. Truly a splendid effort, and representative of the passion demonstrated by VGA members.

An outlanding retrieve from Burra was an ideal opportunity for our youngest member at the club to find out what a "paddock party" is all about. Welcome to gliding Warren!

The "Feathers' Encouragement Award" was also given to one of our club members. Sonja has already demonstrated her grit where others of less character may have fallen by the way. Good spotting Ralph.

As usual the radio-controlled modellers impressed us with their array of gliders and flying ability.

What a great rally, hard yakka, but very satisfying. On behalf of our club I would like to thank all visitors and competitors for making the event such an outstanding success. An open invitation is extended to you all to call in if you are over this way for a flight, a beer, or both.

To those who assisted our members with the day-to-day activities, a special thanks, it was certainly appreciated.

"Green skies", guys.

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The Red Bull X-Alps – Paragliding 800 Kilometres Along the Alps

On 14 July 2003, 15 athletes will launch themselves into the air from Austria's Dachstein Massif and embark on the world's toughest PG competition: the Red Bull X-Alps. This race requires the pilots to cross the Alps from east to west without the help of any other means of transportation. Monaco, the destination, is 800km from Dachstein and must be reached in three weeks or less. The total prize money for the alpine air race: 20,000 Euros.

"This is much more than just an Alpine crossing; it's an adventure, an expedition and at the same time a competition," says Red Bull X-Alps mastermind Hannes Arch, a member of the Red Bull Acroteam. *"What makes this event so extreme is that the individual race stages don't end in the evening; there's no camp where the athletes can kick back at the end of the day. The pilots will spend the nights on the mountain so they can fly off first thing the next morning. The paragliding world has never seen an event like this."*

Support from the "ground personnel"

The teams can choose their own routes from Dachstein to Monaco. Each of the 15 paraglider pilots is backed up on the ground by one supporter, who provides his athlete with food, replacement parts, equipment and information such as the daily weather forecast.

800 kilometres in three weeks

The Red Bull X-Alps race is, above all, a fierce battle against time. The competition is limited to three weeks: if no team has reached Monaco by then, the Red Bull X-Alps 2003 will be stopped, and the entire 20,000 Euros in prize money will be added as a jackpot to the prize money for the Red Bull X-Alps 2004.

"You have to be tough on yourself to win"

If inclement weather makes flying impossible, the participants must make up for lost time and distance in the Alps by covering as much ground as possible by foot: mobilised transportation of any kind is naturally forbidden. As Arch says: *"There's no time to wait around for better weather. You have to be tough on yourself to win."* One such tough guy is the American Will Gadd, who not only holds the paragliding long distance world record of 421km, set last year in Zapata, Texas, but who also is one of the world's top ice climbers. Another ideal candidate is Austrian paragliding legend Walter Holzmüller. Arch: *"Walter is a real wild man. The Red Bull X-Alps is right up his alley!"*

Registration for the Red Bull X-Alps begins in February

The Red Bull X-Alps is an invitational race, but teams can also register for this spectacular event and hope to be given a wild card spot by the organisers. All information necessary for registration can be found at [www.redbullxalps.com].

Ulrich Grill, zooom productions, <ulrich.grill@zooom.at >, +43-6226 8848.

CLUB NEWS

Byron Bay Hang Gliding Club

There has been a bloodless coup at the Byron Bay HG Club! Many thanks to the outgoing president, Andrew Polidano, and to the old committee.

The new committee comprises of: Joe Scott (President), Eddie Grey, (Vice President), Ward Gunn (Secretary), Maggie Clarke (Treasurer) and Ashley Willmott (SSO).

So… I have finally been handed the el presidente job! To me, the president should be into flying weekends with the boys, organising (or helping to) the comps, etc. So it looks like I'll just have to break out the Climax and go to it!

Byron Club News:
Below: A happy customer
Below left: Getting the hang of it early
Photos: Courtesy Joe Scott

Flying in the area certainly has been on the up over the past few months, with the long standing site record being broken by Geoff Ward and Brian Braby. Both on kingposted gliders they flew from MT Boogeram to Warwick, landing in the same paddock together for a distance of about 140km. Well done, lads. Colin Rushton also broke the old club record on his new Climax. Good to see the old salts still giving it heaps. I know I just have to stick with Josh Green and he'll find the thermals for me. I just have to remember how to turn in them!

So in the overall scheme of things the Byron Club is still going strong. Visitors are more than welcome to fly our sites but **must** understand that the sites and landing zones can be very sensitive… One site we cannot fly until after the cows are in because the dog goes off and will not work if he sees paragliders floating around!

If you are considering flying in this area, please get in contact with one of the committee and we will make you welcome. We did establish somewhat of a legendary reputation some 20 years ago under Ian Hird's leadership, and I hope to get back to somewhere near that (halfway would be plenty!).

Joe Scott, President

Southern Microlight Club

The Southern Microlight Club will be running the 2003 National Trike Gathering at Wangaratta Airfield in Northeast Victoria on the weekend of 3-4 May 2003.

The activities for the weekend will be similar to the events conducted at previous national fly-ins. Subject to satisfactory weather, on Saturday we will be flying to Mt Beauty airfield via Happy Valley and the Kiewa Valley. This is always a popular flight with spectacular scenery. Pilots can return via the Kiewa Valley and Happy Valley or via the Tawonga Gap and Bright. On Sunday, we will conduct a spot landing competition and other events. A group flight to one of the local towns will also be organised. Trophies will be awarded for several events.

We expect some pilots to arrive on Friday evening and others on Saturday morning. There will be a compulsory pilot briefing on Saturday morning at 9am at the airfield. All pilots will be expected to have HGFA or AUF licenses.

The Wangaratta Aero Club is providing our catering for weekend. They will supply breakfast and lunches on both days at the airfield. A packed lunch will be ready for pilots to take on their flight to Mt Beauty on Saturday.

The entry fee for the weekend is $30 per person if paid before 15 April. Payments received after this date will be $50. The entry fee includes a cooked breakfast and lunch on both days as well as all events. Friends and family members are welcome. If the four meals are required by non-pilots, please include an additional $30 per person to cover the cost of food. Kids under 10 years old are free. Please enter as early as possible to permit catering requirements to be confirmed.

Our club has also arranged for dinner in town on Saturday evening at 7:30pm at the Wangaratta Club in Victory Parade. All pilots and crews are welcome. We look forward to seeing as many pilots as possible. Entry forms are available from Ian Rees <ianr@anca.com.au> or phone: 03 9762 1364 after hours.

Mid North Coast Association

North Brother Mountain Incident

After returning from a good week of towing, I have been informed by the farmer who owns North Brother landing area that there was a serious accident by a visiting hang glider pilot from the Newcastle area.

Apparently the pilot, who had just obtained his novice certificate, was thrown off North Brother without radio assistance in the landing area by an intermediate pilot (ie, unqualified). He set up his landing way too far downwind and consequently he hit a fence line 200m away from the authorised landing area with great impact, resulting in two severe dislocation of both elbows. This pilot did not have a key to the landing area, nor could his friend direct the ambulance to the paddock as they do not know the area well… No local pilot was present.

The farmer has informed me that he will ban us **all** landing on his property if one more incident occurs. He has also requested that **no one** lands on his property unless they have direct permission and the presence of Lee Scott or Nigel Lelean.

This landing area is extremely sensitive and anyone in future blatantly ignoring this rule will be banned from all our sites.

North Brother is rated intermediate, and if you are a novice you must have an Instructor present to asses your ability and conditions and be under radio. You cannot fly any of our sites unless you first contact Lee Scott or Nigel Lelean (details can be found at the back of the magazine).

If you have flown before at North Brother, this does not automatically entitle you to land at Mr Baglins property any more.

Banning of pilots will commence immediately. The two pilots involved in the accident will be banned from our sites.

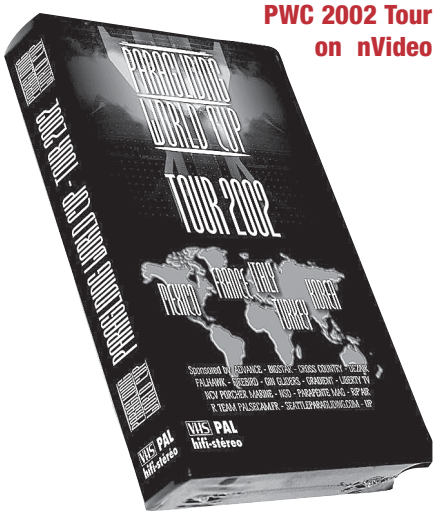
Our club is left with repairing the good will and the fence. The pilot was lucky he did not impale his body on the star pickets, which he bent to an 80º angle… If he had had a serious injury resulting in loss of blood and the paddock fence was closed, he would surely have died, and this is what concerns the farmer most of all.

We welcome pilots to fly our sites, and if you are visiting the area please pre plan ahead, so we can make sure someone can guide you. Don't call the day you arrive wanting assistance!

Mid North Coast Association and
Lee Scott, High Adventures

NEW PRODUCTS

PWC 2002 Tour on nVideo



For the first time, the PWC Association has made a movie of the whole 2002 Tour and is selling it as a VHS tape.

The 36 minute long movie retraces the whole season from Mexico to Korea and contains aerial shots, pilot interviews, general overview of the competition, etc.

The recommended retail price is 20 Euros. More information, including ordering details, at [www.pwca.org].

Aspen – Gradient's new Intermediate and XC Glider

We developed the DHV 2 Aspen to fit between the Onyx and Bliss – the next step for a serious intermediate pilot.

During development we used eight prototypes: different canopy curvatures, attachment points systems and line suspension systems, closed cells and valves. Finally, our research lead us to use a new shape and position for the cell openings that gives the best results over a wide range of angles of attack.

We took great care in testing and choosing new materials, ending up with four varieties of Porcher Marine Skytex materials throughout the canopy. For the top suspension lines we used special lines called "Stronghold", diameter 0.8mm, with the best blend of durability, strength and drag reduction. Finishing the lines by splicing doesn't reduce strength. Raisers are also new, made from Techni Sangles.

After almost one year of intensive work, we have Aspen exactly as we want it. We have "just what a glider in this category should be" glider: high performance, very stable but still dynamic enough for enjoyable flying. Aspen has a unique sink rate and a perfect manoeuvrability, so thermalling is a real pleasure. Aspen also has an extremely fast recovery from an accelerated asymmetric tuck.

Aspen was designed with the cooperation of our own test pilots: Ondrej Dupal, Milan Kamenicek, David Bzirsky, Achim Joos and Kaspar Henny. Feedback from many recreational pilots has also helped to make the glider perfectly tuned for our customers.

The Australian importer is: Jiri Stipek <jstipek@pacific.net.au>, [www.geocities.com/pgheadquarters2000/], phone: 0414 332737

Ondrej Dupal, Gradient

FAI NEWS

FAI Executive Board Takes Important Steps for FAI's Future

At the invitation of the National Aeronautic Association and the Soaring Society of America, which held its annual convention during the same period, the FAI Executive Board met on 24 and 25 January in Dayton (Ohio), the home-town of the Wright Brothers. During their first meeting outside Europe, and at the beginning of a symbolic year celebrating 100 Years of Powered Flight, the FAI Executive Directors made several decisions which will affect the future of FAI well beyond its own Centenary in 2005.

A new image for Air Sports and FAI

To reflect the latest developments in the Air Sports environment, the FAI Executive Board adopted a new, evolving, Strategic Plan. As the basic management document for the next few years, the new Strategic Plan will play an important role in the further development of Air Sports and international competition. Top priority was given to the 3rd FAI World Air Games (see [www.worldairgames.org]) and to the modernisation of the overall image of

Air Sports and FAI. The new FAI Corporate Identity currently under development will be progressively introduced from the beginning of 2004 and should be fully implemented in 2005, the year of FAI's Centenary. FAI Members and Air Sport Commissions will receive detailed information and be consulted both on the Strategic Plan and on the new Corporate Identity within the next few weeks.

FAI subscription and voting system

In accordance with the decision taken last year by the General Conference, the Executive Board continued its work on the future subscription and voting system. The basic definition of Air Sport Persons discussed in 2002 has been complemented by more detailed guidelines on how to determine the exact numbers used for the calculation of the annual fees. FAI members will receive this information very soon and will be asked to supply FAI with the up-dated number of Air Sport Persons in each country. These will form the basis for the final proposal to be put to Conference in September 2003.

Streamlined FAI General Conference

Since the 2000 Conference in Linköping, the Executive Directors have continued their efforts to simplify and improve the attractiveness of the annual FAI General Conference. The Secretary General has been tasked with the development of new solutions to shorten the opening ceremony, liven up the awards ceremony and to shorten the statutory part of the Conference, leaving more time for discussion of strategic issues.

More support for competition organisers

During the last few years, many competition organisers have experienced serious problems in checking the credentials of athletes who register for international competitions. Starting a long-term process aimed at further improving FAI's administrative support to competition organisers, the creation of a centralised database of all valid FAI Sporting Licences is to be studied, to be made available ultimately to all FAI competition organisers.

A book for the FAI 100th Anniversary

Finally, the FAI Executive Directors mandated Mr Pierre Morath, a well-known sport historian with works on the IOC (International Olympic Committee) and UCI (International Cycling Union) to his credit, to start researching and writing a 224-page book covering the history of FAI and Air Sports. Mr Morath will be assisted in his work by Mr Eilif Ness, FAI President from 1994 to 2000, whose wide knowledge of FAI and air sports will add value to the content of the book, which is to be pub-lished early in 2005. In the near future, the FAI Secretary General will appeal to FAI members to participate in this historical research process by searching their own archives for interesting and relevant material.

The next meeting of FAI Executive Board will be held in Lausanne on 9 and 10 May 2003.

FAI, Lausanne

WPRS Update

An interesting update this month, with major changes in all disciplines due to the WAG and 13 other competitions being deleted.

Added in this update are two PG comps, three HG comps and two Class 5. Deleted are the WAG in all classes, as well as seven PG, five HG and one PPG comp.

Hang gliding (Class 1)

The WAG, Dutch Open, French Champ, Nordic Masters, Slovenian Open and the Spanish Open were deleted. Added were the Australian Open, Bogong Cup and Australian Nationals. Results of the South African HG Championships were received late so were not added. The Open Canarias was not valid.

INDIVIDUAL

1	Oleg Bondarchuk	(UKR)
2	Gordon Rigg	(GBR)
3	Gerolf Heinrichs	(AUT)
4	Antoine Boisselier	(FRA)
5	Mario Alonzi	(ITA)
6	Manfred Ruhmer	(AUT)
7	Jean-François Gerard	(FRA)
8	Tom Weissenberger	(AUT)
9	Andreas Olsson	(SWE)
10	Richard Walbec	(FRA)

NATIONS

1	France	6	UK
2	Germany	7	Ukraine
3	Austria	8	Sweden
4	Australia	9	Hungary
5	USA	10	Brazil

Full details at [www.fai.org/hang_gliding/rankings/class1/].

Paragliding

The CNP Roldanillo and Monarco Open (Mexico) were added. Deleted were the WAG, PWC in France, the Belgian Open, British Open, Czech Open, Greek Champs, Nordic Open and the US Nationals. Results from the La Palma Open were received late so were not added.

INDIVIDUAL

1	Alex Hofer	(SUI)
2	Norman Lausch	(GER)
3	Steve Cox	(SUI)
4	Jean-Marc Caron	(FRA)
5	Torsten Siegel	(GER)

INDIVIDUAL continued

6	Oliver Rossel	(GER)
7	Achim Joos	(GER)
8	Shoichiro Tadano	(JPN)
9	Patrick Berod	(FRA)
10	Helmut Eicholzer	(AUT)

NATIONS

1	Switzerland	6	South Africa
2	Germany	7	Korea
3	France	8	Italy
4	Austria	9	Czech Republic
5	Japan	10	UK

Full details at [www.fai.org/paragliding/rankings/].

Class 5

The WAG were deleted and results from the Bogong Cup and Australian Nationals were added.

INDIVIDUAL

1	Christian Ciech	(ITA)
2	Johann Posch	(AUT)
3	Alessandro Ploner	(ITA)
4	Davis Straub	(USA)
=5	Bruce Barmakian	(USA)
=5	Toni Raumauf	(AUT)
7	David Chaumet	
8	Heiner Biesel	(USA)
9	Marcus Hoffmann Guben	(GER)
10	Oliver Schmidt	(GER)

NATIONS

1	USA	2	Germany
3	Switzerland		

Full details at [www.fai.org/hang_gliding/rankings/class5/].

Paragliding accuracy

The Slovenian Open 01 was deleted.

INDIVIDUAL

1	Matjaz Feraric	(SLO)
2	Matjaz Sluga	(SLO)
3	Mitja Omahna	(SLO)
4	Simeon Klokocovnik	(SLO)
5	Stojan Klenovsek	(SLO)
6	Tomaz Gorisek	(SLO)
7	Franc Unuk	(SLO)
8	Tone Svoljsak	(SLO)
9	Josef Rabic	(CRO)
10	Vlado Durkovic	(SLO)

NATIONS

1	Slovenia	2	GBR
3	Yugoslavia		

Full details at [www.fai.org/paragliding/rankings/precision/].

Class 2

The WAG was deleted.

INDIVIDUAL

1	Manfred Ruhmer	(AUT)
2	Robin Hamilton	(GBR)
3	Brian Porter	(USA)

NATIONS

1	GBR	2	Germany
3	USA	4	Austria
5	France		

Full details at [www.fai.org/hang_gliding/rankings/class2/].

Paula Bowyer <paula@fai.org>, FAI

Parahawking

(Article courtesy of Sunrise Paragliding, Nepal)

THIS HAS TO BE THE ULTIMATE PILOTS' DREAM. TO FLY WITH YOUR OWN REMOTE VARIO. ONE THAT ACTIVELY GOES OUT, FINDS AND MARKS LIFT FOR YOU UNTIL YOU HAVE FULLY USED IT AND THEN GOES OFF TO FIND MORE! IF IT SOUNDS INCREDIBLE, THAT'S BECAUSE IT IS! WE STILL STRUGGLE TO BELIEVE IT OURSELVES.

In March 2001 one of our tandem passengers was a British School of Falconry instructor. He was so impressed with the numerous raptor interactions during the flight that it didn't take much convincing to get him to stay and teach us this ancient sport of Falconry, but with a unique twist. We needed our birds to fly with us!

A year later we are only now starting to understand the mind-blowing dynamics involved with flying alongside your own feathered guide!

We have successfully reared two Phariah kites; a male, Shadoko, and his sister, Sapana. They weigh 720g and 850g respectively and have a wing span of just over four foot (1.2m).

Kites are extremely gregarious birds and often fly in large "squadrons." Their flying skills are exceptional and they are extremely playful.

Above you see Sapana in a playful mood. She exhibits inch perfect flying skills to clean out some grass caught in our tandem lines. It took her about eight attempts, trying to judge her speed to not get tangled in the lines. After this she got bored and flew over to a Cinereous vulture, over twice her size, and hit him square in the back!

It has been an incredibly steep learning curve for all involved. Rajesh and I spent almost the whole of March, April and May last year progressing the birds to the stage where we could have them flying with us for over an hour and landing on our fists to receive their reward for finding lift.

Shadoko flying to fist

The early days required building up trust between the birds and the gliders. The first few weeks were spent flying and feeding the bird, while a wing was being ground handled.

After that it was a surprisingly easy step to introduce the birds to a flying glider, and we trained them to concentrate on the food offered from the fist rather than the glider.

Now the birds are very much into pushing and developing their flying skills. Barrel rolls, flat spins, stalls, and most impressive of all, flying upside down! It was hard to believe what we were seeing at first, because this sort of flying is not often observed in the wild. So, in all the hundreds of hours we have been fortunate enough to fly with raptors, we had never seen anything to compare with what our juvenile kites were doing.

Parahawking is truly addictive!

Shadoko groundhandling

Shadoko stalling onto fist

Shadoko in full flight

(For more information from Sunrise Paragliding, visit [www.nepal-paragliding.com] or email <sunrise@nepal-paragliding.com>.)

41ST AUSTRALIAN FAI NATIONAL GLIDING CHAMPIONSHIPS 2003 – Team Narromine to the Rescue

Anne Elliott

Tuggie Keith Dixon all set to commence launching in the 2003 Australian Nationals held at Narromine in February

NUMBERS MAY HAVE BEEN LOW, BUT ENTHUSIASM WAS HIGH AT THE 2003 RELOCATED NATIONAL GLIDING CHAMPIONSHIPS HELD IN NARROMINE, NEW SOUTH WALES, FROM 4 TO 14 FEBRUARY.

Lunch break for Bill Snead and Miles Gore-Brown

With the bushfire emergency in southern NSW and northern Victoria severely curtailing gliding activity in that area representatives of the Benalla Nationals Organising Committee, the GFA Sports Committee and the GFA Executive reviewed the situation at the time and reluctantly decided to change the venue of the nationals from Benalla to Narromine. This was done after taking all factors into consideration and in order to maximise the opportunity of the competition pilots to have a viable competition.

Given only four days notice, Team Narromine, under the leadership of Arnie and Beryl Hartley, swung into action and the competition was organised – approval from appropriate bodies to hold the event, a competition director (Arnie Hartley), a tasksetter (Beryl Hartley), a scorer (Nikki Rowe), a tugmaster (Nick Hunt) and tuggies (Keith Dixon and Nobu Harigae), a met man (David Wilson) and a 'Girl Friday' (Anne Elliott) plus a briefing room (the Narromine Aviation Museum function centre), an operations' room and a dinner venue (the Orana Soaring Club clubhouse).

Then it was up to the pilots to find their way to Narromine, and they did – Theo Newfield, David Speight and Bill Walker, all from New Zealand; Tomas Gostner, Italy; Bill Snead from the USA; Japanese-national Goe Teramoto, who had been in Narromine for several weeks so decided to enter the competition; and Australians Tom Claffey,

Competing pilots Dave Speight (New Zealand), Theo Newfield (New Zealand), Bob Ward (Australia), Tomas Gostner (Italy), David Wilson (Australia) Paul Matthews (Australia), Goe Teramoto (Japan), Tom and Kerrie Claffey (Australia - Kerrie took part during week two), Bill Walker (New Zealand) and Miles Gore-Brown (Australia). Missing from the line-up are Bill Snead (USA) and Lisa Trotter (Australia)

Photos: Anne Elliott

Paul Matthews

National 18 Metre Champion Bob Ward with Tom Claffey, National 15 Metre and Standard Class Champion
Photo: Kerrie Claffey

Miles Gore-Brown, Paul Matthews, Lisa Trotter (who had to leave a couple of days before the completion of the event), Bob Ward and David Wilson.

With the high standard of the competitors it looked as if all was set for an exciting championship, providing the weather was on side – and it was! Only two days were lost and some long and fast tasks were flown on the other days. The most exciting would have to have been day nine, the last, when Tom Claffey flew 516.20km at 153.14km/h, Bob Ward 509.50km at 151.54km/h, Paul Matthews 515.80km at 151.05km/h, Tomas Gostner 515.80km at 148.47km/h and Miles Gore-Brown 516.20km at 47.78km/h.

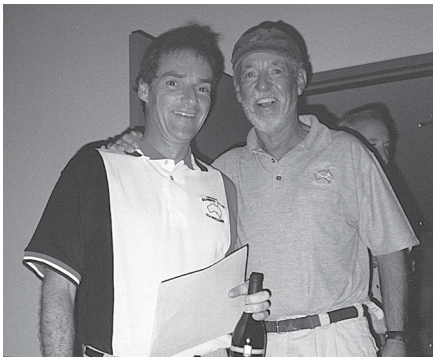
Congratulations must go to Tom Claffey who took out the 15 Metre and Standard Classes and to Bob Ward, winner of the 18 Metre Class.

Turn over for results table

Gulf Air trophy winner Tomas Gostner with tuggie Keith Dixon

Lisa Trotter

Welcome visitors to the presentation night dinner were Jay and Andrew Ward

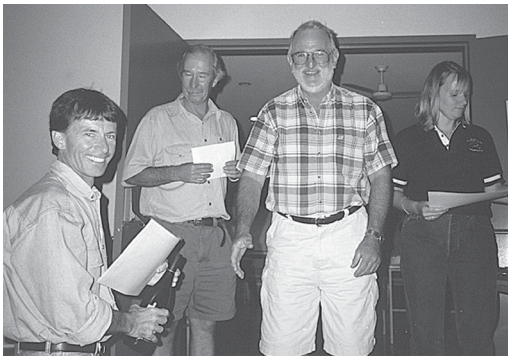


Bob Ward - 18 Metre Class winner

Bill Walker with his wife, and crew, Jan

Left: Theo Newfield studies the sky

The heavies - Tugmaster Nick Hunt, Competition Director Arnie Hartley and Met Man David Wilson



Day winner Miles Gore-Brown with Arnie Hartley, Nick Hunt and scorer Nikki Rowe at the presentation night dinner

41ST AUSTRALIAN FAI NATIONAL GLIDING CHAMPIONSHIPS 2003 – RESULTS

18M CLASS		Country	Rego	Total	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
1	Ward B.	AUS	BW	8,311.9	1,000.0	989.0	923.5	909.7	858.7	823.8	1,000.0	831.1	976.1
2	Claffey T.	AUS	KTC	8,286.3	964.1	1,000.0	812.7	848.2	854.0	1,000.0	883.1	924.2	1,000.0
3	Matthews P.	AUS	LG	8,223.0	971.7	880.6	840.3	948.8	1,000.0	834.6	907.1	871.0	968.9
4	Gore-Brown M..	AUS	76	7,884.6	874.8	592.5	1,000.0	916.2	947.8	760.1	871.9	1,000.0	921.3
5	Gostner T.	ITA	M	7,617.4	702.0	819.4	894.2	1,000.0	729.4	688.3	950.3	902.6	931.2
6	Newfield T.	NZ	IT	7,214.9	971.9	669.7	701.7	952.4	851.0	710.0	712.8	937.9	707.5
7	Speight D.	NZ	UKI	6,221.7	960.3	613.0	650.7	489.8	647.2	746.1	708.2	692.7	713.7
8	Trotter L.	AUS	L88	6,044.8	850.6	851.0	764.1	641.9	782.6	792.4	799.4	562.8	DNF
9	Wilson D.	AUS	ZAE	6,010.4	551.7	549.2	668.5	501.1	633.9	760.4	782.9	794.4	768.3
10	Walker B.	NZ	BI	5,870.1	641.0	645.1	726.3	389.2	624.5	437.2	692.2	933.0	781.6
11	Teramoto G.	JPN	WB	5,004.4	793.6	484.5	530.5	475.9	606.9	562.5	697.7	136.1	716.7
12	Snead B.	USA	55	4,863.9	612.7	542.6	579.5	399.7	657.3	732.1	591.2	748.8	DNF

15M CLASS		Country	Rego	Total	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
1	Claffey T.	AUS	KTC	8,361.8	991.9	1,000.0	812.7	848.2	854.0	1,000.0	929.3	925.7	1,000.0
2	Matthews P.	AUS	LG	8,302.1	999.8	880.6	840.3	948.8	1,000.0	835.5	954.6	873.6	968.9
3	Gore-Brown M..	AUS	76	7,956.6	900.1	592.5	1,000.0	916.2	947.8	761.3	917.4	1,000.0	921.3
4	Gostner T.	ITA	M	7,690.8	722.3	819.4	894.2	1,000.0	729.4	689.7	1,000.0	904.6	931.2
5	Newfield T.	NZ	IT	7,282.9	1,000.0	669.7	701.7	952.4	851.0	711.4	750.0	939.2	707.5
6	Speight D.	NZ	UKI	6,293.0	988.0	613.0	650.7	489.8	647.2	747.3	745.2	698.1	713.7
7	Trotter L.	AUS	L88	6,118.7	875.1	851.0	764.1	641.9	782.6	793.4	841.2	569.4	DNF
8	Wilson D.	AUS	ZAE	6,072.4	567.6	549.2	668.5	501.1	633.9	761.6	823.9	798.3	768.3
9	Walker B.	NZ	BI	5,928.4	659.5	645.1	726.3	389.2	624.5	439.4	728.4	934.4	781.6
10	Teramoto G.	JPN	WB	5,068.9	816.5	484.5	530.5	475.9	606.9	564.3	734.1	139.5	716.7
11	Snead B.	USA	55	4,918.5	630.4	542.6	579.5	399.7	657.3	733.4	622.2	753.4	DNF

STANDARD CLASS		Country	Rego	Total	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9
1	Claffey T.	AUS	KTC	8,366.0	992.1	1,000.0	812.7	848.2	854.0	1,000.0	929.3	929.7	1,000.0
2	Matthews P.	AUS	LG	8,311.1	1,000.0	880.6	840.3	948.8	1,000.0	837.7	954.6	880.2	968.9
3	Gore-Brown M..	AUS	76	7,959.8	900.2	592.5	1,000.0	916.2	947.8	764.4	917.4	1,000.0	921.3
4	Gostner T.	ITA	M	7,699.4	722.4	819.4	894.2	1,000.0	729.0	693.6	1,000.0	909.6	931.2
5	Trotter L.	AUS	L88	6,172.4	875.3	851.0	764.1	641.9	782.6	796.2	841.2	620.1	DNF
6	Wilson D.	AUS	ZAE	6,085.6	567.7	549.2	668.5	501.1	633.9	764.7	823.9	808.3	768.3
7	Walker B.	NZ	BI	5,937.9	659.6	645.1	726.3	389.2	624.5	445.3	728.4	937.9	781.6
8	Teramoto G.	JPN	WB	5,089.4	816.7	484.5	530.5	475.9	606.9	569.2	734.1	154.9	716.7
9	Snead B.	USA	55	4,933.9	630.5	542.6	579.5	399.7	657.3	736.8	622.2	765.3	DNF

Goe's First Nationals – Distance, Speed, Cats, Dogs and Sheep

Anne Elliott

ASK GOE TERAMOTO ABOUT HIS FIRST NATIONAL GLIDING CHAMPIONSHIP AND HE'LL BEAM, LAUGH, THEN SHAKE HIS HEAD IN DISBELIEF AT HIS EXPERIENCES.

Goe Teramoto
Photo: Anne Elliott

To tell you a little about Goe. He first visited the Narromine-based Orana Soaring Club three seasons ago, planning to stay a couple of weeks then return to Japan. However, he enjoyed himself so much that two weeks ran into six, and then culminated in the purchase of an LS8, which is permanently hangared in Narromine. This acquisition added another glider to his, then, Japan-based fleet of four – a K6E, a Super Ximango, a DG808B and a Grob G103CSL.

Goe now flees the harsh Japanese winter every year to spend anything up to three months in Narromine where he can enjoy unlimited cross-country flying.

On learning that the Australian Nationals would be relocated to Narromine, Goe decided to enter. Despite having flown extensively in Japan, the United States and France, this would be his first national event: little did he know what a memorable one it would be!

Day 1: A good start – fifth position in Standard Class, 285.40km at an average speed of 101.49km/h.

Day 2: Not so good – down to 11th place, 376.1km at 92.52km/h.

Day 3: Better speed, 106.24km/h, but what a finish! To quote Goe: *"Landing in 'cats and dogs' and lightning – that's enough, once in my life after a 500km task!"*

Day 4: A challenge – down to seventh place after 305.5km and only 85.86km/h.

Day 5: Down the bottom again, but speed not so bad – 101.6km/h for a 276.9km task.

Day 6: Every day the competitors and officials would say 'Go Goe' – and this day he did, for his longest flight ever – 630.4km at a speed of 102.79km/h.

Day 7: His fastest speed so far in the competition – 333.1km at 131.49km/h. Much 'kanpi'!

Day 8: You've heard of 'Dancing With the Wolves'? Well this was 'Barking at the Sheep'! After scratching around an outlanding loomed, 103km south-west of Narromine. An air retrieve was organised and fearless tuggie, Nick Hunt, promptly arrived on the scene. No problems, a good paddock, but slightly uphill. Starting the tug's engine Nick noticed a cloud of dust ahead of him, which came closer and closer. What's going on? A mob of 2,000 drought-starved sheep running up and over the slight rise, that's what was going on! On hearing the tug the sheep thought it was the vehicle which delivered their daily 'Meals on Wheels': a treat not to be missed! So, what could be done with the sheep surrounding the glider, tug and pilots? Waving arms, running around and shoo-shoo-ing brought no response. What could control this mob? Ah, a dog! But no dog! What does a dog do? Bark! So, putting all dignity aside, Goe and Nick turned into sheep dogs and, circling the sheep, started barking. It had the desired affect – the sheep were soon herded far away and the tug, with glider, made a safe take-off. Goe's only regret? Lack of a video camera so he could share the (unbelievable) experience with his club members in Japan! By the way, Nick is now known as the 'grey-heeler'.

Day 9: The last competition day and a fitting finish for Goe who clocked up his fastest speed ever of 132.49km/h over a 509.5km course.

All in all, over nine flying days Goe experienced his first national championship, his longest flight, his fastest flight, his first landing in a storm, and his most memorable outlanding. He now can't wait to see what's in store for him at the next Australian Nationals!

Flight Review: NOVA AERON

Hakim Mentes

OVERVIEW

The Aeron was tested in Bright over a three day period at varying conditions, including nice smooth late afternoon thermals and mid day bullet thermals.

SPECIFICATION & SET UP

Glider weight range:	90-110kg
Rating:	DHV 2 (Afnor Performance)
Harness:	Edel ProLight
Risers separation:	40cm
Weight in flight:	102kg

CONSTRUCTION

The first thing that caught my eye when I opened the glider was the fewer lines. Where were the rest of the lines? The Aeron uses three risers and three lines attached to each riser; far less then what I am accustomed to. Another unusual feature of the glider is that the last section of the lines are not shielded.

The Aeron possesses all of the goodies expected from a modern glider, including full internal stitching and diagonal V-rib construction. Lines are connected to the risers via typical triangular mallion arrangement with O-rings.

Only the A-risers are colour coded with a sewn red strap. Although some may say that if you are flying a wing like that, you should know the location of risers like the back of your hand, I still prefer to see the risers colour coded.

The trailing edge is reinforced by folding the glider material a few times, but it did not look as strong as using a reinforcement strip as seen on some other gliders.

THERMALLING

Despite its dynamics, it handled rough thermals better than what I expected. It moves around quite a bit and requires active flying. Despite that, it did not show any nasty behaviour during my flights in Bright. Getting in an out of thermals was no problem at all and there was no tendency of tucks of collapse.

TURNS

The Aeron is a glider willing to turn with small control inputs. Not only does it turn quickly and efficiently, it comes out of turns efficiently, converting the speed into a nice steady climb.

Response to weightshift only is slower than I expected. But, weightshift combined with a slight control line input results in a nice turn.

CONTROL (BRAKE) LINE FORCE

The control line force progressively increases and it is on the spot. I was able to fly around the minimum sink rate without any need to pull on the control lines; the weight of my arms was sufficient for it.

TAKE OFF AND LANDING

Three days, three forward and two reverse launches without a hiccup. It nicely parked on my head each time. Could not expect any better.

ASYMMETRIC COLLAPSE

Despite its dynamic behaviour, it was very predictable and stable at asymmetric collapse. Tried many times an up 60%, the wing inflated immediately and turned less then 90 degrees. Happy with the handling of collapses, I tried the same with 2/3 speed. Things change here a bit and it turned almost 180 degrees, but came out of it nicely without my input.

BIG EARS

Big Ears are easy to initiate, but do not stay in once released, they gradually pop out. They are a bit reachy and I had to lean forward to be able to reach the lines. A Big Ear cord would be a nice touch.

SPEED BAR

The speed system is a short travel design and one step stirrup would be sufficient for full speed. Initially it did not feel hard, but after three hours of thermalling, I prefer to have a bit softer speed system.

B-LINES STALL

The Aeron is an aspecty glider, therefore I was not keen to practice a full B-line stall. But, I had to give it a go and it came in without difficulty. It felt that it was effective, but then again, I did not pull it in full.

CONTACTS

To find out more about the glider, contact to Alpine Paragliding to arrange a test flight. Their contact details are: <enquiries@alpineparagliding.com>, [www.alpineparagliding.com/], ph: 03 57 551 753, mobile: 0428 352 048.

Coombsy's Big Day Out

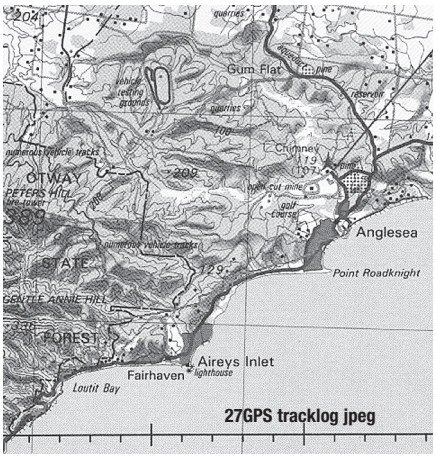
Geoff Coombs

ONE MONDAY IN FEBRUARY I WAS CHECKING THE WIND STRENGTH AND DIRECTION ON THE INTERNET, AS I OFTEN DO WHEN IT LOOKS TO BE A GOOD SOUTHERLY. THE STRENGTH AND DIRECTION SEEMED OKAY, SOUTH AT AROUND 15-20KT, SO I DECIDED TO HEAD DOWN TO FAIRHAVEN AT AROUND 3PM.

It had been consistently flyable at Fairhaven for the last couple of weeks and this didn't look any different from those other days. True, it didn't look that fantastic (9/10ths cloud cover and cool) but the wind was a nice strength and direction, with just a hint of west in it. Problem was, there was not a soul around. This was a bit unusual, but I guess it had been flyable so often over the last few weeks that the locals had had enough. I really should have waited for others to turn up, but I had flown here so often, and the launch is so easy, that I decided to fly anyway.

The launch did turn out to be easy, and the lift was strong (cool dense air). After crossing over to Eastern View (the ridge west of Fairhaven launch, with a bit of a gap to get to it), I started to climb strongly (400-500ft/min) and it just kept going. I started pushing out to sea, still climbing well to 2,500ft. This made crossing over to what we call Big Hill very easy (this is normally difficult and puts you onto the hills you can follow to Lorne, but normally only when the wind is more around to the east). The wind was strong so I decided to turn on the GPS just to see what it was (in hindsight I'm certainly glad I did, as I've got a great tracklog now!).

It was too far off to the west to attempt to get to Lorne, so, after stooging around for a while, I flew back to Eastern View. Again I struck very strong lift under the clouds and just kept pushing out to sea and circling back. Pretty soon I was over 3,200ft (highest I'd ever been here!) and 2.5km back! The heart rate was climbing about as fast as I was! For a brief time I thought about flying over the back, but I would still have had to cross over 10km of forested hills. I probably would have made it easily, but my balls aren't that big! Besides, nobody was around, and if I'd landed in the trees I'd never have been found again! A glide to Urquhart Bluff was possible crosswind, so off I went, enjoying the unusual view of Aireys Inlet from the back side.



After arriving at Urquhart Bluff with 1,500ft and climbing again to 1,800ft, I thought it was possible to make Pt Roadknight Lookout and then Anglesea. Besides, I could always land on the beach between Roadknight and Urquhart. So off I went again, thinking that I might even be able to get on to the cliffs at Eumeralla. After arriving at Pt Roadknight with 900ft, I headed off to the Anglesea river mouth and a possible crossing to the Eumeralla cliffs. But I hit heaps of sink along the way (even though it was only a short hop) and arrived with 400ft at the river mouth. I did make a half-hearted attempt to get onto the cliffs, but my adrenaline stocks were running low and I was happy to land at the river mouth. Besides, I'd done something no one had ever done before, and had the track log from the GPS to prove it! So I was pretty happy about it. Plenty of people had talked about flying back that way before, but I must admit I didn't think it was possible. Just goes to show, you have to be at the right place at the right time!

Thermal Generating Solar Towers!

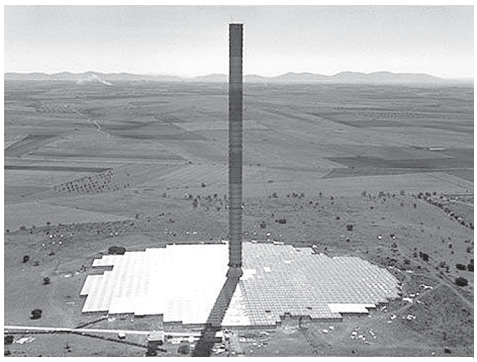
(Article courtesy of Airborne Magazine, New Zealand)

IT MAY SOON BE EVEN EASIER TO FIND THERMALS IN AUSTRALIA, WITH CLEARLY MARKED SOLAR TOWERS SHOWING THE WAY TO GUARANTEED LIFT. NO MORE GUESSING, PILOTS CAN JUST FLY FROM TOWER TO TOWER... AS LONG AS THEY BUILD ENOUGH OF THEM OF COURSE...

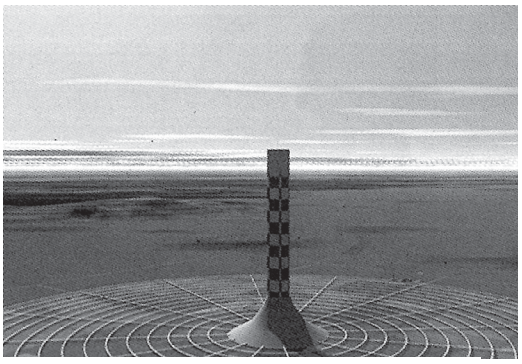
Melbourne based EnviroMission intends to establish innovative solar towers to generate electricity by adapting unique German designed solar tower technology to Australian conditions. The first 200mW solar thermal powerstation in Australia is intended to be built by September 2005.

Solar tower technology uses the sun's radiation to heat a large body of air, which is then forced by the laws of physics (hot air rises) to move as a hot wind through large turbines to generate electricity. A solar thermal power station using Solar tower technology will create the conditions to cause hot wind to flow continuously through its turbines to generate electricity.

It will look like an enormous greenhouse canopy with a very tall hollow ventilation tower located at its centre. The sun's radiation will be collected and trapped under the transparent canopy, creating a massive force of air heated to around 35ºC greater than the ambient temperature. The laws of physics will make this air move at 15m per second (30kt) towards the cold air at the top of the tower located in the centre of the canopy.



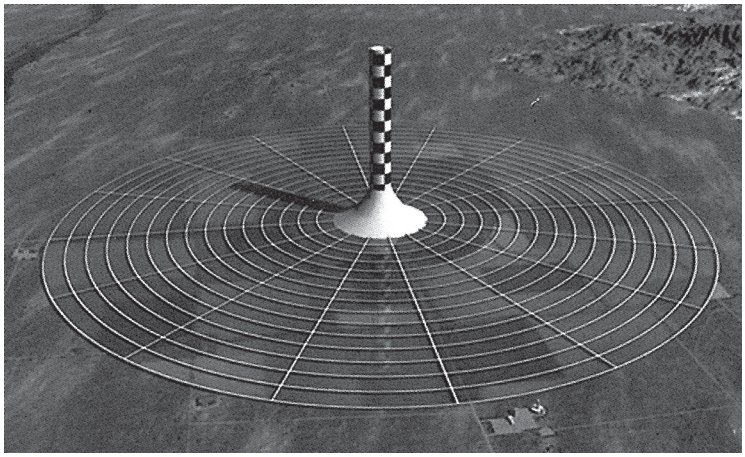
The Spanish Solar Tower prototype



The view you may in future get before flying into that truly guaranteed thermal!

The powerful updraft will force the rising air to pass through large turbines positioned at the base of the tower. The movement of the hot wind through the turbines will generate up to 200mW of electricity – enough for 200,000 typical Australian homes. The figures for the project itself are equally impressive. The tower complex cost, without attendant infrastructure, is estimated at $70 million. The tower itself will be 130m wide and one kilometre high (3,281ft) – the tallest man made structure on Earth – and will incorporate 700,000m^3 of concrete; while the accompanying 'greenhouse' will have a radius of 3.5km, cover about 1,000 hectares and require 38 million square metres of covering.

So the solar thermal power station will be composed of three major components: the solar collector, solar tower and turbines. The large solar collector canopy will be constructed from a transparent material with heat enhancing properties. The tower will be constructed from reinforced high strength concrete. The large-scale turbines will be purpose designed and constructed from lightweight alloy materials like those used in aircraft manufacture.



EnviroMission's solar thermal power station will generate electricity 24 hours a day. The power station will be at its most efficient on hot days when energy is most needed and peak prices are paid for electricity. Innovative design will enable the powerstation to store heat and continue to generate energy during the night.

After an extensive search, EnviroMission has selected the site for the world's first solar tower power station in the Buronga district of the Wentworth Shire in NSW, 25km north-east of Mildura in Victoria.

A 50kW prototype solar tower plant was constructed and successfully operated in Manzanares, Spain, with the involvement of the designer, Professor Jorg Schlaich, and the Spanish Government in 1982. The prototype operated for seven years and conclusively proved the technology works. The data obtained from this prototype has provided the basis for a scaled up 200mW generation plant.

Formerly referred to as Solar Chimney technology in academic literature, it is now marketed without the reference to chimney (to avoid confusion with pollution associated with chimneys – this technology is emission free). The solar tower has had in excess of A$35 million and 20 years of research and development invested in it.

For more information visit [www.enviromission.com.au].

Proposed design for the Australian solar tower

Photos: Courtesy [www.enviromission.com.au]

FLYING WITH RACHEL

Mike Oakley (Article courtesy of 'Triker News')

We had sailed the Atlantic waves on the good ship Tenacious, drank wine in the islands off Africa, but there was something else we dreamed of. We wanted to *"slip the surly bonds of earth and dance the skies on laughter-silvered wings, sunward we would climb and join the tumbling mirth of sun split clouds".**

I first learnt to fly microlights in WA in a small town called Bunbury. I recently moved back to the UK and got my UK pilot's licence. I now fly a Cyclone AX3, which is a cheap and cheerful three-axis microlight aircraft. Rachel is a 'would be' beauty queen with a taste for travel and adventure, so flying was a 'must do' challenge! From a logistics point of view the odds were against us. To start with, Rachel and I had only just met. Then there was the problem that I live in Gwynedd, Rachel lives in Cheshire, and the aircraft was in Gloucestershire! The next problem (no, 'challenge' sounds better!) was that access to an AX3 is made difficult by having small doors and lots of struts and cables, etc. This is awkward for me at 6ft 2in, but Rachel is tetraplegic and therefore needed to be, somehow, manhandled in, over, through, or whatever. And we should not forget that it was February in a British winter and we needed reasonable weather! As they say in Australia, *"No Worries, Mate!"*

We set the date for two weeks after our return from the ship, with hotel booked, aircraft booked and fingers crossed.

The weekend came. Saturday was foggy but Sunday was clear with light winds, so it was go, go, go! We arrived at Kemble airfield to see aircraft in the circuit and the AX3 taxiing back to the flying club. Historically, whenever the Brits need a hand, our colonial friends come to our aid, and so it was on that day. Thanks to Kiwi pilot, Graham, and Rachel's Aussie Carer, Anna, we strapped Rachel into the co-pilot's seat. Pre-flight checks done, radio calls made and we were off to *"chase the shouting wind along, and fling my eager craft through footless halls of air."**

Maybe Rachel should tell you how the adventure was for her. I know I was overjoyed to see that grin on her beautiful face!

The next challenge could be to fly around the UK taking disabled people as I go and raising sponsorship for the Back Up Trust. Crazy? Maybe, but hey, *"No Worries, Mate!"*

** Adapted from 'High Flight' by John Gillespie Magee, 1922-1941.*

Rachel and Mike ready to fly **Photo: Courtesy Mike Oakley**

FLYING WITH MIKE

Rachel Smith (Article courtesy of 'Triker News')

I already had a fear of flying way before I met Mike. However, due to my passion for discovering new and exciting countries, I had no choice but to grit my teeth and go for it. So it was whilst sailing around the Canaries on the beautiful tall ship, Tenacious, that I learnt of Mike's ambition to take disabled people flying. This presented me with the opportunity to act as a guinea pig, to discover something new and exciting whilst assisting with practicalities, and so I jumped at the chance.

It was the first time I had flown in a microlight aircraft, and as the weather forecast for that day was said to be "perfect flying weather", my emotions were very mixed. Feelings of apprehension, nervousness and above all excitement continued to wash over me during our journey out to the airfield. Naturally, I tried to disguise my anxiety, although I was constantly asking very pointed questions such as, *"So how long have you been flying then?"*

On arrival at Kemble airfield, Mike's enthusiasm shone through and so I soon forgot my fear. Once we stepped out of the car, Mike introduced me to another plane he aspired to take out, which he thought would be more accessible for taking disabled people into the skies. As a total novice to the world of flying, I thought it looked comfortable, practical and secure.

(Of course, one of the most important things about transferring a person with limited movement from one place to another is that the movement is safe for all parties involved. This involves having as much clear space as possible, avoiding any physical obstacles and ensuring the lift is as easy as possible for the able-bodied lifters, as one severed spine in a party is quite enough!)

Then he introduced me to the plane we were about to be airborne in, the Cyclone, which does have a few obstacles in the way. I quietly gasped, but kept smiling, whilst inside I was thinking, *"Jesus, I'm never going to get in there."*

Fortunately, it seemed both Mike and myself were fuelled by the challenge. We had to negotiate struts and cables and a wing lower than the height of the main lifters involved to get me in. After a rather ungainly three-man lift, trying to get a spinally injured wheelchair user into a tiny plane, I was strapped into the co-pilot's seat.

It was at that point I realised, there was definitely no getting out of it now! Despite my feelings of apprehension, a great feeling of exhilaration took precedence over everything else as we taxied down the runway and set off flying through the air.

As the adrenaline pumped through my veins and I sat there with bated breath, I was given the important job of looking out for air traffic on my side of the aircraft, but also grasped the opportunity to take a sneaky peak at my gorgeous pilot!

We flew over the Gloucestershire countryside, spotting all the beautiful sites as we passed, my heart in my mouth all the way. One of the highlights of the whole flight for me was the fact that I had been able to help Mike realise his ambition to take disabled people flying in the UK, and knowing him, ultimately the world.

My aim now is to continue to help him with his project by further involving him in the Back Up Trust and introducing him to some of my friends. Oh, and yeah, who knows, a skiing trip to Sweden or a spot of abseiling might also appear on the agenda along the way, thanks to Back Up!

Letters to the Editors

HICS Syndrome and Its Benefits With Managing Work Stress

Stuck here in the office with a waiting room full of happy and some not so happy punters I finally succumbed to the nagging desire to put pen to paper for a non-work essay, albeit briefly, on the joys of flying. This is of course the theme all us pilots share and pervades all those wonderful articles I get to eagerly devour in a (if you're lucky) frustrating short lunch break, *("you know you've still got two house calls to do darl"),* or later at night in bed.

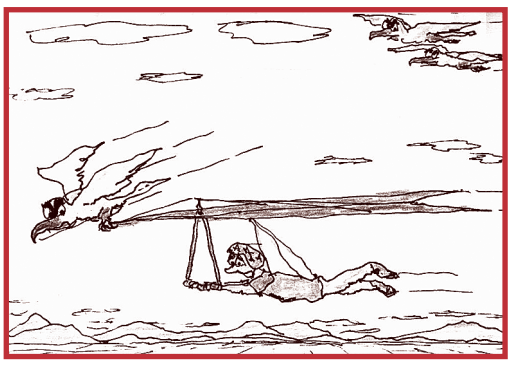
So this is basically a very belated but sincere thank you to those enviable, inspirational experts and excellent editors who provide all that wonderful reading and teaching to us mortals.

I have been flying hang gliders, microlights, gliders, planes, etc for about 25 years now and still find the challenges to master the art and science of both staying up and getting it back on safely to be incredibly satisfying and enduring learning.

I have had the privilege of selfless teaching firstly from my siblings (or maybe originally old Ingo R) and latterly from various club members/friends at Newcastle HG and Lake Keepit over all those years.

I went up to Keepit a few weeks ago and without any bother had Nick review my annual, teach me a few more tricks, had a fantastic weekend mostly around 10,000ft in an immaculate super glass ship and a few evening drinks with yet more wonderful new friends there. A wonderful club with great instructors, workers, airfield and all it takes to keep it happening. I even enjoyed going out to retrieve (and dismantle) the old Concrete Swan (Twin Astir) in which a mate had landed out, getting back for a late 10pm tea with friends.

I fell asleep late last night, after another work day, reading Bernard Eckey's thermalling hints in Soaring Australia, not to mention Bruce Taylor's hints in our little Keepit letter.



That Egbert has always had a mean streak!
Cartoon: Codez

I reckon I'll have it sussed next time, if only I can figure out how to go a bit faster and not get too wrapped up in enjoying that lovely scene around cloudbase, or even better, up between those fluffies where you catch yourself talking to yourself saying things like – Oh Man!

I guess we really do get that HICS disease my spouse keeps telling me I've caught: Head In Clouds Syndrome.

I don't know what the problem is though as all the people I've met through flying have been the best, most unselfish, helpful types you could hope to associate with.

Anon (name supplied but withheld at the author's request)

Congratulations

You may have seen my name listed as an occasional contributor to Soaring Australia and its predecessors. I am one of the old-timers of the soaring fraternity in Australia and a past editor of what was Australian Gliding magazine. I am still interested in the sport, though, at 77, I'm no longer an active pilot, while still managing to scrounge a dual flight on odd occasions.

The purpose of this letter is to congratulate you, Richard, on your contribution to editing Soaring Australia and to assure you that quite a few of the sailplane-flying fraternity are also interested in the activities of hang gliders, paragliders and trikes. I was especially pleased to read through the January issue, which I consider was one of the most interesting and enjoyable I've read. Congratulations to you and your co-sub-editor, Anne Elliott.

Frankly, I'm amazed at the performances achieved by those who fly hang gliders and paragliders. As a sailplane pilot since 1945, I am impressed not only by the distances flown but also by the obviously high standards of airmanship, piloting skills and organisational ability demonstrated. More (thermal) power to all of us who fly for the love of it!

Allan Ash

Thank you very much, Allan. Not only for reading and enjoying the magazine, but for taking the time to express it so eloquently! (And by the way, if you're at all interested in a tandem hang glider, paraglider or trike flight at any stage, just let me know – I'm sure it can be arranged).

Richard Lockhart, HGFA sub-editor

A Fly-in With a Difference

On Sunday 18 May the Queensland-based Caboolture Aero Club and the Caboolture Warplane Museum will be holding the Caboolture Fly-in Flea Market.

This event is open to the public and we invite aircraft owners to fly in and park on the flight line. The flea market will also be open to the public and it is in this area that I am asking for help.

Private individuals, aero and gliding clubs and companies are all invited to bring items for sale or trade.

Anything from aviation books, aviation apparel and aviation-related memorabilia to aero parts, even whole aircraft!

This will be an annual event: a place where all types of people and pilots can bring that piece of junk from the back of the shed and sell or trade it to someone who can find new life for it. Maybe this will save a few relationships!

For more information, contact Ray Vuillermin at <vuillermin_r@casa.gov.au>

Tim Class-Auliff

Wallaby Volunteers Needed

Greetings!

The Wallaby Open 2003 is drawing near and we are seeking individuals who would like to help out during the meet, scheduled for 20-26 April. These generous folks will receive complimentary gourmet meals, beverages and an official Wallaby Open 2003 comp T-shirt. For more information or to sign up, please contact Laurie or Tiki at <fly@wallaby.com>.

Wallaby Ranch, (863) 424-0070, [www.wallaby.com]

Making the Best of Lift

I have been greatly interested in the series of articles on making the best of lift, by Bernard Eckey. They have provided the most comprehensive coverage of the subject I have yet read. I only wish they had been available 50 years ago. My own efforts at remaining aloft might then have been more successful.

It occurs to me that these articles should be collected and reprinted in booklet form, perhaps by the GFA or the HGFA or both, and distributed either free or at a nominal price to all trainee pilots. They would assuredly provide a great boost to our sport by reducing the usual lengthy period of trial and error, fumbling and frustration, that marks the progress of most glider pilots, even with the aid of good instructors.

A good grasp of theory makes the practical application so much easier.

Allan Ash

Soaring Calendar

AUSTRALIA

QSA Easter Competition '03
18-26 April 2003

To be held at the Dalby Aerodrome. Practice and registration day is Friday, 18 April, final dinner on 26 April. For more information contact Ralph Henderson on 07 38436178 (h) or 0409 596579 or Libby Matuszczak on 07 46344879 (h) or 0409 140954, email: <libbymat@optusnet.com.au>.

PG State of Origin 2003
Easter long weekend, 18-20 April

Mt Borah, Manilla NSW. The goal of State of Origin is to encourage pilots to fly cross-country with an emphasis on team flying and fun. Many of the participating pilots may have had little or no experience thermalling, spending much of their time ridge soaring coastal sites. State of Origin is also a good stepping-stone for pilots interested in entering national competitions. Pilots are awarded scores for open distance flights according to their level of experience, eg: novice pilots are awarded 3 points per km and advance pilots 1 point per km. With this handicap scoring system it is possible for anyone to win regardless of level of experience, just like the National CMAC Cross Country League. The beauty of State of Origin is that top competition pilots and local instructors are available to share information with new comers on cross-country flying and local site knowledge. Registration will be held at the Royal Hotel, Manilla between 9am – 10am Friday 18 April. (If for any reason we can't fly Mt Borah, towing is available at nearby Breezer with our National champ Rhett Rockman. Alternatively you can enjoy an ultralight flight with Willi at Lake Keepit Skyranch or a tandem sailplane flight from the soaring club.) Contact Paul Cox on 0417 355 897 or <coxy@ccparagliding.com.au>.

Easter Air Show – Cunderin 2003
19-20 April 2003

Cunderdin airfield, WA. The Easter Air Show at Cunderdin is an opportunity for all codes of aviation and their followers to get together for two full days of entertainment and flying activity. The newly formed Avon Valley Aviation Alliance will play a big role in the show's line up with aerial displays from gliding clubs, paragliding and paramotoring, hang gliding, microlighting, ballooning and skydiving, as well as powered flight. Static displays and scheduled shows on the ground and in the air, will make for two fantastic days, that cater to the pilot, aviation enthusiast, families, and the curious. There will be evening entertainment, and food and fun well into the night. The website lists all the confirmed participants, and the varied and robust schedule of events. Camp and caravan sites available. No landing fees for the weekend. Website: [www.cunderdinaviationexpo.avon.net.au] or phone Rod Carter on 08 9641 7045. Email: <info@cunderdinaviationexpo.avon.net.au> or phone the Shire Office on 08 96351005.

National Gathering of Trikes
3-4 May 2003

Wangaratta Airfield, VIC. This will be an event consisting of social flying and flying activities such as day trips in the local area, informative seminars and skills improvement exercises.
For details contact Ian Rees on 03 9762 1364 or see Club News section this issue.

Warkworth Aerobatics
7-8 June 2003

An informal, fun aerobatic competition to be held on the Queen's Birthday weekend at the Hunter Valley Gliding Club. See the Hunter Valley club web pages for more information: [www.hvgc.aus-soaring.on.net] or email:< HVGC@Sandercock.com>.

OVERSEAS

Russian PG Open 2003
30 June – 6 July 2003

Koessen, Austria. Hallo friends all over the world! The Russian PG Open will be held in Austria this year. It will be FAI Cat 2 and so count towards WRPS. Please find full invitation and local regulations at [www.tirol.com/fly-koessen]. This event will be a milestone for Russian paragliding, with the President of the Russian Federation, Vladimir Putin, personally expected to visit the venue.

Third Junior World Gliding Championships 2003
5-19 July 2003

Nitra, Slovakia. Preliminary entries for the event will close on 15 January 2003 and final entries must be made by 31 March 2003.
If you are interested in taking part in the event contact: Tim Shirley 0417 268073 or <tshirley@bigpond.net.au> for further information.

The Red Bull X-Alps
14 July 2003

Austria. On 14 July 2003, 15 athletes will launch themselves into the air from Austria's Dachstein Massif and embark on the world's toughest PG competition: the Red Bull X-Alps. This race requires the pilots to cross the Alps from east to west without the help of any other means of transportation. Monaco, the destination, is 800km from Dachstein and must be reached in three weeks or less. The total prize money for the alpine air race: 20,000 Euros. The teams can choose their own routes from Dachstein to Monaco. Each of the 15 paraglider pilots is backed up on the ground by one supporter, who provides his athlete with food, replacement parts, equipment and information such as the daily weather forecast. The Red Bull X-Alps race is, above all, a fierce battle against time. The competition is limited to three weeks: if no team has reached Monaco by then, the Red Bull X-Alps 2003 will be stopped, and the entire 20,000 Euros in prize money will be added as a jackpot to the prize money for the Red Bull X-Alps 2004. If inclement weather makes flying impossible, the participants must make up for lost time and distance in the Alps by covering as much ground as possible by foot: mobilised transportation of any kind is naturally forbidden. The Red Bull X-Alps is an invitational race, but teams can also register for this spectacular event and hope to be given a wild card spot by the organisers. All information necessary for registration can be found at [www.redbullxalps.com]. For further press information contact: Ulrich Grill, zooom productions, <ulrich.grill@zooom.at>, ph: +43-6226 8848.

Bolu PG Festival 2003
July 20-26

Turkey. Festival includes an international paragliding festival. All expenses during the festival are covered by the organisation, including accommodation, meals and transportation. Registration fee: 45 Euro. All PG pilots are invited.
Email <info@bogaziciparagliding.com>, ph: +905325600692, see [www.bogazici paragliding.com].

LIFT – MAKING THE BEST OF IT: Part 9

Bernard Eckey

CHAPTER 3 – TURNING THEORY INTO PRACTICE

Before going deeper into chapter three let us look at ways and means of implementing some, or all, of the suggestions made previously. Simply reading a book, or articles such as these, will not on its own ensure a successful outcome. We should now consider how to take advantage of newly-learned theory and how best to turn it into a practical skill. It is important to be very clear and specific about what exactly we want to accomplish, which in turn should allow us to see more precisely what the course of action should be. In other words, a game plan needs to be created and therefore I have decided to share with you the game plan that worked for me.

3.1 Setting a goal

At first we need to identify our goal. Unless we know where we want to go, we are likely to get sidetracked and accomplish very little – if anything. We need to concentrate on one particular aspect of our flying and pick a skill that we think could do with some fine-tuning. In other words we identify a less refined skill and resolve to improve it. Once we have done that forget about all other possible areas of improvement in our flying, the decision has been made and we will stick with it. Do not allow yourselves to home in on something else, but get focused on one skill refinement to the temporary exclusion of all others. Of course, this does not mean we relax on safety or ignore the lessons learned during basic training, but it does mean that every opportunity must be used to increase our skill level in this particular area.

Let us look at an example together.

Say we have resolved to work on our angle of bank. Perhaps we have learned that we can improve our rate of climb just by optimising the angle of bank and we have also come to realise that we are usually thermalling at too shallow an angle.

Fine, we now have a goal – a realistic one and one which is quite achievable if only we apply the right amount of patience and perseverance.

So far so good – we have just completed step one of our exercise and the goal has been identified. We can now move on to stage two where we collect information on the subject and polish up on our theory because theoretical knowledge puts us on a much quicker road to success and on a much steeper learning curve. Theoretical knowledge ensures that we don't have to go by trial and error but simply implement what very experienced and seasoned glider pilots have collated and written down in good gliding literature or magazines such as this.

As luck would have it, it just so happens that the subject of bank angle optimisation was covered in detail in part three and four of this series of articles. All we have to do is to dig up the information and spend an evening or two digesting it.

Very good indeed – we have just completed stage two of our exercise without even stepping into a glider. It's cost nothing and we've already absorbed a lot of background information on the way towards our goal.

In stage three we just put theory into practice. I know – it is easier said than done but our knowledge comes in very handy now. We implement what we have identified as the correct course of action but also learn from our mistakes. Try as we might, sometimes we fall back into our old bad habits but, with a bit of thought, we quickly remind ourselves that there are better and more efficient ways of thermalling. On the other hand, bad habits are often deeply ingrained and it is only too easy to give up. Obviously, you tell yourself, you are not made of the right stuff. Maybe other pilots can do it, but *"I just don't have the willpower to go through with it."*

Nonsense! We are all humans and we all make mistakes, but the difference between success and failure is persistence. Don't be discouraged when you return from a training flight and realise that you were too busy just trying to stay airborne and you did not find the time to experiment with a steeper angle of bank. There is another opportunity next week or the week after – just don't give up, simply resolve to attempt it again next time.

If this appears too pedantic and you think you can work on more than one skill simultaneously – think again. I have seen glider pilots with world records to their credit but with a note stuck to the instrument panel on a training flight. The note simply served as a reminder to focus on one particular aspect of their flying. It sure convinced me – what about you?

3.2 Training

Amateurs train until they get it right, but professionals train until they can't get it wrong. Yes, I know, there are not too many professional glider pilots, but the message behind this statement could not be clearer. We must look at every flight as a training flight and regard it as an investment into our gliding future.

Athletes spent countless hours conditioning their bodies, but in contrast glider pilots mainly use their intellect for performance enhancement. This doesn't mean that we can afford to ignore physical fitness altogether. On the contrary – it plays a very important role, but the fact remains that the mental fitness ranks higher in our sport than the physical one. In my opinion that is good news indeed – at least we can go on flying quite well long after all these celebrated athletes have gone into retirement with aching joints.

Jokes aside, what can we do to improve our practical skills and how can we turn a weekend flight into one that serves to enhance skills levels without providing any less enjoyment?

Here are a few hints.

- *On a day with say 5,000ft convection leave every thermal at 4,000ft and find another updraft elsewhere.*
- *Set yourself a limit as far as thermal strength is concerned. Leave every thermal that doesn't provide a pre-determined rate of climb after centering.*
- *Climb to a predetermined height and glide back to the airfield noticing the arrival altitude. If getting back to the airfield at more than 10,000ft (or 500ft) above standard circuit entry level adjust your final glide distance or final glide height on the next attempt.*
- *Try to practice such final glide runs at various airspeeds and take notice of the difference in height loss.*
- *Try to do the same in crosswind, headwind and tailwind situations.*
- *Fly with a more experienced pilot in a two-seater and take notice of his or her flying techniques.*
- *Take turns at flying a two-seater and encourage your fellow pilot to criticise your flying and/or your decision-making.*
- *Use your airbrake to lose height and climb in another thermal as quickly and as efficiently as possible.*
- *Start your landing approach deliberately a little higher (or a little lower) as practice*

for future outlandings. (Check with your instructor first).

- *Try to stay airborne as long as possible towards the end of a soaring day.*
- *Try to encourage your fellow club members to undertake similar training activities enabling you to compare performances at the end of the day.*
- *Make every landing a spot landing.*
- *Fly at a site other than your home airfield.*

3.3 Team flying

The best thing that can possibly happen to a team of likeminded pilots is access to gliders with comparable performance. But even when the performance is not closely matched, training can be made easier and more effective in a team environment, provided jealousy and envy is replaced by a spirit of sportsmanship and co-operation.

Let's look at a number of options for team flying.

- *We can agree on a triangle and fly the task independently. (But in the shortest possible time.)*
- *We can start on a predetermined task at the same time and at roughly the same height to allow participants to compare techniques and decisionmaking.*
- *We can fly as many laps as possible around a short task.*
- *We can fly a mutually agreed task and time competitors from lift off to the end of ground run.*
- *We can set off on an "out and return" flight with the aim to go as far into wind as possible without outlanding on the way home.*

All of these little contests foster a spirit of friendly competition and should greatly contribute to an enhancement of camaraderie amongst pilots. But it is important to conduct a debrief at the end of the day and to compare notes with other competitors. Only by freely exchanging information on positive as well as negative aspects of the flight can we expect to learn valuable lessons from such mini contests.

3. 4 Stepping out of our comfort zone

It is not unusual for new students to start their basic training with a fair degree of nervousness and often even a touch of apprehension. However, mainly staying within a few kilometres of the home airfield and knowing that an instructor is sitting right behind students soon develops a feeling of security which often goes hand in hand with an increased level of enjoyment and a realisation that one does not have to be "Superman" to become a glider pilot. As time goes by every landmark near the airfield gets embedded in the student's brain: he instinctively knows the altitude required for a conservative return to the circuit area and during the final stages of training almost all students operate within a distinct comfort zone of their own.

Let us talk about this comfort zone for a moment. Certainly, a reasonable level of comfort is absolutely crucial for getting students on a steep learning curve and for converting them into safe solo pilots. On the other hand a very large number of pilots keep operating within their very cosy comfort zone for much too long after having gone solo. Sure, no two students are the same, and while some are very keen to experiment others need encouragement to push themselves beyond familiar limits first established during basic training. In other words there is a reluctance to do anything that hasn't been done with an instructor in the back seat and, as a result, too many new pilots fail to make real progress or their progression to a higher level of skill is unnecessarily slow.

If you think you fall into this category of glider pilots here are a few suggestions for you.

- *Why not talk to your duty instructor and request permission to perform a right hand circuit onto the runway that you have so far only used for left hand circuits (or vice versa).*

- *Have you ever considered performing a voluntary outlanding? Again, talk to your instructor first because this subject is only covered in a future article. The outlanding can be made in a paddock only a few kilometres down the road or it can even be made on a nearby airstrip, but it provides a first class chance to get yourselves out of your comfort zone again.*
- *If you belong to a group of pilots who like to return to the circuit area with at least 1,000ft to spare I suggest you make an attempt to get out of this habit and deliberately put yourself into a position where you have to fly accurately, efficiently and cleanly to make it back to the airfield with just enough height for a normal circuit.*

Accepting such challenges tends to focus your mind wonderfully and the reward for operating at the border of your comfort zone is a vastly increased level of proficiency and competency. Apart from that it also allows you to get a much better feel for the true performance of your aircraft and it enables you to confidently judge what is safe and what is not – something that will come very handy if you have plans of flying cross-country one day.

Whatever you do, make sure you do it safely and never let your aircraft take you to places your brain hasn't been to a few minutes earlier.

The beauty and the attraction of our sport is to easily find new challenges every time we retract the undercarriage. Just remember, nothing ventured – nothing gained. If this saying holds true in our every day life it certainly holds true in our quest to become more competent glider pilots.

3.5 Evaluating our progress

We are striving for progress – not perfection. We are all human beings and as such not born to fly. This makes us slow learners when it comes to acquiring new flying skills – a fact we need to remind ourselves of frequently. But as we move closer towards achieving our goal we want to give ourselves periodic checkups to gauge our rate of progress. They are opportunities to see how we have done and if we are still on track.

It is all too easy to start with the best intentions and a clearly identified goal but then run into a spell of unsuitable weather or other distractions that keep us away from the gliding field for a while. If this is the case there is the risk of losing track of our goals so that practical implementation of theoretical knowledge can easily fall by the wayside. Even worse, our theoretical background knowledge becomes more and more clouded with time and might require refreshing. This will not be a problem if you have access to good gliding literature or if you have retained these articles. Your coach will also help if only he or she is asked the right questions. Use these as a resource if needed and take a moment to re-focus on your goals before you step into a glider after a break. We want you to achieve all the success you can because success is by far the greatest motivator of all. Success equals fun and as long as glider pilots have fun they become enthusiastic about our sport and make it more vibrant and more exciting for all of us.

To be continued

GFA News

FAI NEWS

FAI 100th Anniversary Publication

In 2005, on the occasion of its 100th anniversary, the Fédération Aéronautique Internationale intends to publish a work retracing its first century of existence and the parallel history of air sports. The writing of this book has been entrusted to Pierre Morath, an historian specialising in sport and the Olympic movement. Although the archives of the FAI will provide the bulk of the material needed for this future publication, the FAI is now launching an appeal to its members and associated organisations, and to custodians of historical archives, asking that they also contribute material to this project, which is destined to become an authoritative work of reference.

All material, or requests for further information, should be addressed to: Fédération Aéronautique Internationale, Centenary Book Appeal, Avenue de Mon-Repos 24, CH-1005 Lausanne, Switzerland, phone: +41(0)213451070 or email: <jmb@fai.org>.

GFA AIRWORTHINESS DIRECTIVES

GFA AD 586 – Issue 1

Type affected: *Schempp-Hirth Discus 2a and Discus 2b, serial numbers 13 to 22; 24, 27, 28, 30 to 48,50, 51, 53 to 55, 57 to 63, 65, 67, 68, 71 to 79, 81, 82.*

Note: *Sailplanes which have previously had Schempp-Hirth Technical Note 360-16 incorporated are not affected by this AD.*

Subject: *Elevator and elevator pushrod.*

GFA AD 587 – Issue 1

Type affected: *Diamond aircraft HK-36 R and T series, all serial numbers.*

Subject: *Checking of the crankcase of Rotax 912 and 914 engines.*

GFA Development Officer's Report

Terry Cubley

I mentioned in my section last month that small clubs had specific issues that we must all try to help them resolve. I have recently received an email from a member of a smaller club.

"As you are no doubt aware we are a small club using winch launching from a grass paddock made available to us for over 30 years at no charge. As with most clubs we have struggled over the years just to keep our heads above water, mainly by having our charges too low I believe, and have had difficulty in even paying the insurance premiums, let alone aircraft replacement.

Some members persist with the notion that our club is just a club and not a business, but I say it should be a business first, run on sound commercial lines, or the club will go broke and there will be no flying for anyone. I wonder how many clubs have disappeared for this reason?

The point of telling you this is to show that the financial wellbeing of our club and, I guess, all clubs is dependant on:

Good utilisation of resources

Adequate pricing

Tight control over spending

Good management

Our membership is necessarily restricted by the limitations imposed by our rather fragile flying field, but we have never had to turn away any prospective members.

We have tried various promotional methods over the years including newspaper, radio, and participation in trade fairs, air shows, and static displays on Australia Day for example. All of these efforts and expenses have had minimal impact, and I can only point to one member being recruited as a result.

However, we have had one outstanding success. The NRMA magazine did an article on Adventure Sports in our district, including our gliding club. This article was published over 18 months ago, and we have had lots of AEFs, (probably over 100), and we are still getting calls for AEFs from this source, and it didn't cost us a cent. It seems that NRMA members read this magazine and keep it until they get the chance to go gliding. Almost everyone has a car, and lots of them are NRMA members. These flights have not provided any members to our club as I remember, but have significantly improved our finances.

I think advertising in this magazine would be infinitely more valuable than any ad in any aircraft magazine with its limited readership. I think a paid advertisement here could attract an editorial type article with a bit of organisation.

Another great success has been our page on the GFA web site, and we regularly get AEFs from there. The new site of www.soaring.com.au can only improve the coverage to the public and attract more people to gliding.

I include the Accreditation Document for your information and hope that our club can be included in the new web site. I know we are deficient in some areas, but the mere act of filling in the form has highlighted these deficiencies, and I expect we can improve our facilities for the benefit of members.

One thing that we do is to take a photo of any visitors in the glider with a digital camera then email it to them with a thank you message, usually on the same day. We have had very positive feedback from this. We find that almost all of our visitors have access to email."

There are a number of very interesting points raised in this letter.

Airfield tenancy

A critical aspect for many clubs is the tenancy of their airfield. The club above has had a fairly stable situation, and certainly financially positive, but I guess there is always the concern that the field may become unavailable into the future. A South Australian club that is in a similar situation, relying on the goodwill of a local farmer, may have a problem in the future due to the death of the farmer and the 'family' not being so supportive. Handy if the hangars and clubhouse are relatively easy to move! The message for many clubs is to see if a more reliable arrangement can be made. Small clubs are not the only ones to suffer in this area, some major clubs also rely on support from the airfield owner. The secure clubs are the ones who own their airfield or who have a very long and secure lease. This is obviously a major financial investment for any club, and certainly difficult for a small one.

Club management

The issue about management of the club is critical. There are many clubs who are operating with a cost structure that is slowly sending them broke. Many still have the same gliders that they have had for the past 20 years, with very little cash in the bank, and little planning for their future development. Some clubs have sold off their assets progressively and now are in fairly difficult circumstances. Other clubs, such as Balaclava, have increased their club fleet, paying off loans through very careful management. The Gympie club has planned its growth and has made significant improvements through focusing on its plan.

The club committee is the group which must accept full responsibility for setting the goals of the club, setting the fee structure, and growing the club to satisfy the needs of the members. Anything is possible. The Ararat club made over $11,000 through 10 days work at a remoter site, providing a gliding experience for visitors. What could you do with an extra $11,000 on your club's bottom line? What is the plan of your club's committee? What is your role in ensuring that this plan succeeds?

Advertising

The suggestion about the success of the NRMA article is quite interesting. It is good to hear the results of different advertising; auto magazines may be a good idea for the GFA's advertising campaign. I would like to get feedback on any other advertising that clubs have used and the success of this.

We are currently running a radio advertising campaign in South Australia in conjunction with the Adelaide Soaring Club. We will give some feedback on the outcome of this advertising in future editions of Soaring Australia.

Web page

The new web page [www.soaring.com.au] is proving quite popular. If you haven't seen it yet, please have a look. We look forward to getting your feedback.

At the time of writing we have received accreditation forms from 22 clubs who want to take advantage of this promotion opportunity. Remember, that we are only promoting those clubs who want to increase their membership and who are prepared to make the effort to welcome and look after the visitors that arrive. Is your club on the list?

The accreditation document lists 16 questions that clubs can self-score against. The main aim of this document is to provide a tool so that committees can plan improvements to the way they attract and look after their visitors, and preferably turn them in to members.

Remember, the aim of the game is for clubs to increase their membership – this means lower costs, increased utilisation, larger and better fleets, more activity, and more fun. It just takes some work and a goal to make this happen.

Mysteries of UHF Radios Unravelled

Jiri Stipek

I HAVE RECENTLY FOLLOWED WITH INTEREST THE DISCUSSIONS ON PILOT EMAIL FORUMS CONCERNING THE USE UHF TWO-WAY RADIOS. AS THERE ARE LOTS OF MYTHS SURROUNDING THESE GADGETS, I'VE DECIDED TO SHED SOME LIGHT ON THE SUBJECT.

UHF CB stands for Ultra High Frequency Citizen Band radio. This band (around 470mHz) is assigned by the Department of Communication to non-licensed radio operators and can be used by anybody who can put their hands on the appropriate transceiver.

There are simple rules to follow, which, however, are hard to impose. One of them is that 90% of the transmission has to be a human voice. It is also prohibited to re-transmit any broadcast or recordings except by licensed repeaters on duplex (more below). The ban on foul language and swearing was lifted a few years ago – so, help yourself. Plain courtesy dictates not to block channels deliberately and allow other users to communicate. After all, there are 40 channels in the band. The only one subject to some restrictions is channel five (both duplex and simplex), which is reserved for emergencies only. Channel 40 is dominated by truckies – do not let your children listen to this one!

The maximum transmitting power is restricted by law to five Watt. This is a serious power in fact, as it allows reaching distances of some 200km in ideal conditions – or even more using special antennas. The reachable distance is a tricky subject, as the UHF signal is in the habit of travelling in a straight line, bending only slightly with the earth's magnetic field. The result is that two radios held at head level can communicate even in perfectly flat terrain, only over some 10km. Then the signal gets blocked by the earth's curvature. This problem can be, of course, fixed by gaining elevation over the terrain.

Transmission gets worse with any solid obstacles in the way – hills, buildings or vegetation. These block the signal very effectively and any conceivable increase in transmitting power is futile. Special cases are conductive objects of one quarter wavelength long. These act as simple quarter wave antennas, absorbing and weakening the signal even if they are not directly in its path (gum leaves fit the bill almost perfectly). This phenomenon has some practical applications. For instance, the antitheft tags in retail stores are nothing other than antennas tuned to the frequency of a transmitter at the exit. A weakening of the signal is detected if you try to skip the cashier…

Knowing the above is part of the answer to the question, *"Should I have a 300mW or the full five Watt radio?"* True, in ideal conditions – at the distances we normally communicate – there is no difference worth mentioning, as the smallest hill will block five Watt as reliably as 300mW. But the conditions are rarely perfect. The full five Watt power will not only help to compensate for loses caused by the effect described above, but will also get us higher above "noise" – a random emission from either human technology or natural sources. In short, size does matter.

The same applies to antennas – but not directly. Do not try to improve you signal by simply lengthening the antenna. You'll be tampering with a finely tuned device, making things worse. The simplest antenna is a piece of straight wire exactly one quarter of a wavelength long. It transmits – or receives – signals from all directions except sharply angled cones in the directions of the tip and the base of the antenna. For our purposes it works fine. However, the performance can be improved by an antenna with a gain. There is, in fact, no "gain" whatsoever. These antennas only direct signal in certain directions, reducing emission in the others. Typically, they widen the angle of the above-mentioned "cones of silence", strengthening the signal around the axis of the rod. This is making the antenna more sensitive to its position as well. With any rod-type antenna the area in the direction of its tip or base has virtually no coverage. In other words, pointing your antenna in the direction you want to transmit is not the best idea.

The position of antenna is important for another reason as well. Our radio signal is polarised. It means two communicating antennas work best if they are parallel. Any deviation from this position will significantly reduce their effectiveness. The worst results (about 20% efficiency) are found if the communicating antennas are positioned 90º to one another. As the UHF CB signal is, by agreement, vertically polarised, try to keep your antenna as close to the vertical position as possible.

Earlier on I mentioned repeaters. We seem to stubbornly ignore these devices, despite their ability to let us talk over the hills. Repeaters on CB are privately owned, but a part of the license agreement is they have to available for public use. They can be found on channels one to eight and work in the following way. If you switch your radio on "duplex" and use, let say, channel four, they would re-transmit your signal on channel four plus 30, ie 34. Another transceiver switched on "duplex" channel 4 (or 34 "simplex") can receive that signal. If the repeater is on top of a hill – and that is where they mostly are – the coverage can be enormous. To find out if a particular area is covered by a repeater is simple. Switch your radio on "duplex". Select channel one and press the PTT button momentarily. If you, immediately afterwards, receive a burst of static-like noise, it is the repeater. If not, try the next channels up to eight. But beware: the louder the response is, the weaker is the repeater signal. A good, strong signal induces a barely audible hiss! Repeaters also introduce themselves in certain intervals by Morse-coded signals, for instance M three means Melbourne, channel three. By the way, this particular one situated somewhere near the Police Academy is virtually useless as it is being continually misused by all kind of weirdoes. But the ones in country areas – where we need them the most – do not suffer from this problem that often.

A word about courtesy. In situations where your club's fly-in channel is busy, use it only for information either of general interest or short messages to a particular person. If the conversation is likely to be more than a few sentences long, it should instead become: *"A to B, A to B. Go to channel 12 (or whichever is a less busy option than the first channel), confirm."* After receiv-

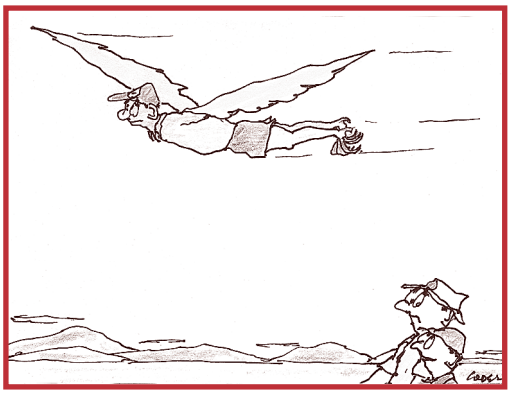
ing the confirmation, go to that channel to discuss your dinner arrangement for as long as you wish. Needles to say, your channel selector has to be accessible while in flight.

Another spot of annoyance are airborne handheld radios without proper headsets. Transmitting on these is not only difficult and compromises safety, but also consists mostly of wind noise. Do not be surprised when you get told off. Rig your radio properly and test it in a strong wind before using it at a flying site.

A blocked PTT button (never use VOX, the ultimate source of trouble) can spoil a whole day for a whole bunch of pilots. It can happen to anybody, any time. I'm still trying to apologise to all the poor pilots who had to listen to my singing from cloudbase for some fifteen minutes at Corryong last year. But I still can't beat the tandem pilot in Bright, whose one hour presentation intended only for the ears of his female passenger, kept the whole flying community glued to channel 22! So don't join us on the black list. If you can't hear anything for five minutes or so, it is time to check your "transmit" LED. If it is on, switch the radio off immediately and leave it that way until you fix the problem.

Use a "low power" setting while communicating only over short distances – five kilometres or so. You will save batteries and will annoy fewer people as well. Besides that, you will reduce the risk of attracting attention of some psycho taking pleasure from blocking somebody else's communication. You can also eliminate receiving distant or weak stations by turning the "squelch" knob to the right.

Radio geeks use their own language. We are not obliged to follow suit, but it comes handy to know at least the basics:
Affirmative – Yes
Negative – No
Roger – Received, understand
Say again – Repeat
A copy B, A copy B – A, please answer B
Go ahead, B – Answer to the above
Radio check – Is my radio working?
You are working – Answer to the above
Over – End of my transmission, but I'm still listening
Over and out – end of my transmission, I'm switching off
Breaker – Sorry for interrupting your conversation, I have something to say
Go ahead breaker – The desired answer to the above (unfortunately, more often you'll get "f##k off!")



Fred's been genetically modified… he flies well, but has the devil's own job getting shoes to fit. Cartoon: Codez

And here are the most important ones. **never** use these without a sufficient reason and **never** interrupt these transmissions:
Mayday Mayday Mayday – My life is in danger. Details will follow.
Pan Pan Pan – Somebody else's life is in danger. Details will follow.
Securite Securite Securite – Important message concerning safety in general will follow.

I hope readers find this article useful and that it will lead to some improvement in radio communication. We need it!

HGFA General Manager's Report

Recently received accident reports reflect pilots injured for a variety of reasons, though sadly none too new. Opting for convenience rather than safety rears its head yet again, failing to heed advice (seemingly becoming all the more common with visiting pilots) and flying in inappropriate conditions.

Aerobatics

Personally I have never been one for doing radical aerobatics, it seems to me that no matter how good one gets at doing wingovers or similar manoeuvres there is always someone else comes along and does a better one. Nevertheless, if you are inclined to do aerobatics its your choice (providing of course these are done within the aircraft's limitations). I recently read that a paraglider used for aerobatics is said to be totally worn out after 50 hours – expensive pastime really.

Stanwell Park Compliance

I ask all pilots to assist the committee and safety officers of the Stanwell Park Club by complying with requirements at the Bald Hill site. It is disappointing to hear that many pilots are being non-cooperative at this critical time.

Paraglider Airworthiness Directives

Two recent safety alerts are now available from the German Association (DHV) website at [www.dhv.de].

1. *Line damage has recently been reported on various model Apco wings at the point where the lines are attached to the riser maillon. The characters stamped on the inside of the maillon can fray the inside loop of the risers, necessitating maillon replacement. Judging from the fraying to the risers shown on the photos on the DHV website, this damage should be readily detected during a normal preflight inspection.*
2. *Swing advise that there have been occasional incidents when the Mistral 2.22. model has shown an increased tendency to deep stall in certain situations. Though all gliders sent to Swing for inspection came within the permissible tolerance levels, it appears that a pilot could go beyond this stall limit on the Mistral 2.22 in unfavourable conditions. As a precaution, Swing is therefore taking the following safety measures as agreed with the DHV. The owner of the glider must determine whether the Mistral 2.22 shows any tendency to hang back when launched on a level training area in still conditions (not a reverse launch). This should be tried at least five times before reaching any conclusion. If it is clear that its launch behaviour is poor or if there are any other peculiarities, the glider should not be flown and Swing should be contacted. The pilot must check the glider before it is next flown. Further investigations should only be carried out by Swing.*

Accident Reports

No 1

Pilot:	*Advanced PG pilot*
Experience:	*220 hours total, 25 hours last 90 days*
Glider:	*DHV 1-2 paraglider*
Pilot injury:	*Two broken rids, two fractured vertebrae*
Glider damage:	*Nil*
Location:	*Inland soaring site*
Conditions:	*5kt wind, moderate turbulence*

Description:

Pilot launched into what was assumed to be thermal cycle (movement in trees below). Glider immediately suffered a series of collapses and spins resulting in the glider diving past the pilot into the ground. Pilot impacted feet first, compressing legs into his chest as the base of the harness took remainder of the impact.

Comments:

The pilot did not have a lot of experience inland. Conditions certainly proved to be much more turbulent than anticipated.

No 2

Pilot:	*Intermediate PG pilot*
Experience:	*45 hours total, 0.5 hours last 90 days*
Glider:	*DHV 1-2 paraglider*
Pilot injury:	*Nil*
Glider damage:	*Minor canopy damage, several damaged lines*
Location:	*Small coastal site*
Conditions:	*12kt wind, nil turbulence*

Description:

The pilot was encouraged to fly a small site without a bottom landing. A more experienced pilot on the ground provided advice via radio to enable a top landing to be made. In the pilot's words: *"In order to top land I was instructed to fly further south than I had previously, at which point I lost a fair bit of height (as required) and was flying parallel with the edge of the cliff. I was told to stay close to the cliff edge and continue flying along the edge in order to pick up enough lift to lift me up over the edge to crab in low for a top landing. By this stage I was feeling very uncomfortable with the height I had lost and my gut reaction was to turn again and to try and tail wind it to the beach. I was told to keep going, which I did staying as close to the cliff as I felt safe, but within another 10-15 seconds it was clear to both of us that I wasn't gaining height. I was instructed to turn again along the cliff face and as I did I lost even more height and it became absolutely clear that I was going to have to do an emergency landing on the rocks/sea. I was losing height very quickly by this point, and it became essential for me to turn into wind again to lose some speed. By the time I had safely turned into wind I was too far away from the flat rock shelf and heading over the shoreline sea/rocks. I flared the glider and aimed for a large rock, landing in the sea, approximately 6-10ft from the rock. The water I landed in was maybe 10-15ft deep, definitely too deep for me to stand up. The glider came down behind me into the sea. I dog paddled like crazy to get my hands on the rock and hold on before the next wave hit. I managed to wedge my boot into the rock to hold on and tried to untangle the various lines/strings of the wing/vario/radio and get my harness off but with the weight of the wet harness, pulling wing, and intermittent waves it was virtually impossible for me to do so on my own. I realised I was reasonably safe and had no injuries, so unstrapped my vario and radio and held them above the waves, and hung on to wait for help. Assistance arrived shortly thereafter, and I was helped me to untangle and get the harness off. Several of the lines had caught down under rocks and we took it in turns diving down to try and release the lines. All my electronic equipment was written-off."*

Comments:

Demanding and accurate flying skills are required to fly small sites safely. As the above report relates, it only takes one turn to be inaccurate or inefficient and resultant unwanted height loss can put the pilot in danger very quickly.

No 3

Pilot:	*Restricted HG pilot*
Experience:	*One hour total, one hour last 90 days*
Glider:	*Floater type hang glider*
Pilot injury:	*Two dislocated elbows*
Glider damage:	*Nil*
Location:	*Coastal soaring site*
Conditions:	*15-18kt wind, light turbulence*

Description:
The pilot was new to the site and finding little lift, headed to land at the end of the ridge. Without realising it, he set up to land downwind of the normally used landing, over a much smaller field (the landing area cannot be seen from launch). At about 50ft agl he saw two fences running across the field directly in front of him, about 10m apart. He was then hit with some turbulence and was unintentionally turned crosswind; he corrected, pulled on speed and still in prone, rounded out to clear the second fence. Focussed on the fence, he flew straight into it, dislocating both elbows.

Comments:
Taking the time to inspect the landing would have certainly been worthwhile, particularly when it cannot be seen from launch.

No 4

Pilot:	*Intermediate PG pilot*
Experience:	*29 hours total, three hours last 90 days (1.5 hours on glider)*
Glider:	*DHV 2 paraglider*

Smiling for the camera, Scott Barrett races along the Eagles Nest cliff near Inverloch, Victoria

Pilot injury:	*3 crushed vertebrae and bruising*
Glider damage:	*Nil*
Location:	*Inland soaring site*
Conditions:	*10-15kt wind, moderate turbulence*

Description:
The pilot's car had been left by another pilot near a small landing area, though there were more favourable options available. The landing area was narrow and downslope, with powerlines to one side and trees and powerlines across the upwind end. The pilot approached to land near his car, overshot the approach and found himself with powerlines in front and beside him. He encountered turbulence from the trees upwind; he turned 180 degrees and didn't anticipate the glider reaction; it nose dived and turned and began to recover, though the pilot was pendulumned into the ground before it fully recovered, with the harness taking the impact. The back protective harness proved its worth, preventing far more serious injury.

Comments:
The pilot said: *"The moral is – don't get car suck."*

Fly safely, Craig Worth

NAS – STAGE 2

Bob Hall, President GFA

THE FOLLOWING UPDATE ON THE NAS INCLUDING THE DETAILS OF STAGE TWO WAS PREPARED FOR THE AVALON AIR SHOW. STAGE TWO INTRODUCES THE MAIN CHANGES TO THE NAS. THE CONTENTIOUS ONE IS THE REMOVAL OF MBZ AND THE REPLACEMENT WITH CTAF WITH THE US RECOMMENDED CALLS.

BRIEFLY THESE ARE AS FOLLOWS:

Within 10nm:

1. *Inbound and outbound aircraft are recommended to call on and monitor the CTAF frequency.*
2. *Transiting aircraft are expected to monitor the CTAF when passing though airspace normal occupied by inbound and outbound aircraft.*

(Please note that details on the NAS website but are yet to be agreed – as I understand it – Bob Hall)

The following is from "THE NAS LINE" which comes from the Executive Director of the National Airspace System Implementation Group (NAS IG), Mike Smith, in which he reviews new developments in this Government project to reform airspace protocols in Australia.

… "The biennial Avalon Air Show (February 11-16) will provide an important opportunity for the National Airspace System Implementation Group to promote and explain the new system of airspace management being introduced across our skies.

The NAS program is progressing well with the initial two Stage One changes introduced on November 28 last year and a third change rolling out on March 20.

While Stage One required minimal adjustment by Australian operators, the much more significant and visible Stage Two changes, to be introduced later this year, will certainly impact on Australian operators. The principal changes are summarised:

The NAS Implementation Group is convinced the proven US airspace system will reduce costs for the Australian aviation industry and the travelling public, without jeopardising our excellent safety record. A cost benefit analysis for the NAS will be completed by an independent expert at the end of March.

Meanwhile, the NAS IG team continues to brief aviation industry groups from both the civil and military aviation sectors, including State and Territory Regional Airspace Users Advisory Committees (RAPACs). NAS IG team members will again visit the United States later this month (February) to gain a better understanding of US airspace operations to prepare for the more complex and technical changes in Stage Two.

The military team members will visit US military air traffic control (ATC) facilities in the US south-west while their civilian colleagues will tour ATC centres and meet airspace planning authorities. Their findings will be vital in developing hazard ID, mitigation and safety case workshops in Australia.

NAS IG team members also visited America in November last year where they gained first hand experience in flight operations in all US classes of airspace. The NAS IG also received a visit this month by the Associate Administrator for Air Traffic Services (ATS) within the United States Federal Aviation Administration, Steven J. Brown.

The ATS's 36,500 staff are responsible for providing 24-hours of air traffic control through 550 US facilities and, among many other responsibilities, they evaluate the continual improvement of the NAS infrastructure.

Mr Brown visited Canberra, Sydney and Melbourne to study and be briefed on the NAS implementation project and current airspace management in Australia. As mentioned previously, I continue to be impressed by the strong support across the aviation industry for the NAS reforms. Clearly, we cannot succeed in rolling out 40 new characteristics without a strong sense of partnership, trust and good airmanship with all users and operators.

We are doing everything possible to make the transition to the NAS as straightforward as possible. There will be a series of simple-to-adopt precursors to the changes, then the introduction of new enhanced airspace classifications and procedures and, finally, the transition to the US model of airspace architecture.

I am confident this project will offer also an important secondary benefit of strengthening the understanding of Australian airspace architecture and procedures within the aviation community.

The Stage Two characteristics

The principal NAS characteristics for Stage Two are summarised below:

1. *Charting will be simplified by removing unnecessary information. For example, removal of FIA boundaries, Restricted Areas on ERC (High) and designated Remote Areas.*
2. *Class A airspace will be established with a base of FL180 where required and generally consistent with radar coverage. In all other airspace, Class A airspace will have a lower limit of FL245. Over Australia's territorial limits, Class A airspace will have an upper limit of FL600. Outside Australian territorial limits the upper limit will be FL460.*
3. *En route Class C and OCA Class C will be removed.*
4. *Class E airspace will be established at a base of 8,500ft and generally associated with radar coverage. In less dense airspace the base will be FL180 or FL 145 within Australian territorial limits.*
5. *Beneath the Class E base low-level Class E steps will adjoin the Class D tower airspace.*
6. *North American CTAF procedures will apply at all aerodromes in Class G airspace. (This includes MBZs re-classified as CTAFs).*
7. *Danger Areas amended to Alert Areas (Alert areas are depicted on aeronautical charts).*

What does it all mean?

The changes will allow operators to avoid following navigational aids and making numerous frequency changes common under the former system. Instead, pilots may fly direct using Ground Positioning Satellite (GPS) guidance or follow roads and other topographical features. This

will reduce the risk of mid-air collision within the approach and departure airspace near airports.

Operators can gain weather information via the relevant Flightwatch frequency on their charts. Use the 121.5 radio frequency to report an emergency.

Detailed information

1. *Operators are encouraged to check the official NAS IG website at [www.dotars.gov.au/airspacereform] to study the Stage Two changes in detail in the NAS Concept document.*

We are working with the Aviation Reform Group (ARG) to finalise the timings for introducing Stage Two and Three changes later this year flowing through to early next year.

The bottom line is that the NAS will improve safety in many ways and, more importantly, the expected cost savings will free up resources to be used where safety can be further enhanced.

It is in everyone's interest to take the time and effort to study the NAS changes and access the information and guidance offered on the NAS website."…

NCC News

Miles Gore-Brown

2004 Australian FAI National Gliding Championships. Bids are now open, and being called, for the site of the 2004 Australian FAI National Gliding Championships. Enquiries should be directed to Miles Gore-Brown, email <mgbsia@pacific.net.sg> or PO Box 3494, Robina Town Centre, Robina Qld 4230.

George Lee's Performance Course

Junior glider pilots who are interested in being considered for selection in George Lee's performance course to be held in Queensland this year are asked to lodge an 'expression of interest' with Miles Gore-Brown, email <mgbsia@pacific.net.sg> or PO Box 3494, Robina Town Centre, Robina Qld 4230.

Feedback Forum

Viv Drew

Hello High Flyers,

The new year is racing through fast and the gliding season has seen some excellent soaring conditions with more 1,000km being clocked up on the board and some unforeseen weather conditions. Bushfires on the east coast impacted severely on the flying activities of many clubs. Accidents are still happening and changes to our airspace are still on the agenda.

Accidents

"See and Avoid" – written by Daryl Connell, Chairman Operations Panel

GFA has had a number of mid-air collisions over the last 10 years. A high proportion resulted in single or multiple fatalities. As a result GFA introduced a number of changes including the following:

- *changes to, and increased emphasis on, teaching lookout to students,*
- *increased emphasis on pilot lookout during annual flight checks with sufficiently poor lookout leading to check failure, and*
- *changes to rules and practices at competitions to reduce collision hazards (eg multiple start points, common gaggle frequencies and etc.).*

There was general and international recognition that these changes were good, yet we had another mid-air collision last year, fortunately not fatal, but it may well have been.

Subsequently during 2002 there has been considerable discussion on the issue and a number of initiatives taken. These include consideration by the Operations Panel and National Competition Committee, with NCC setting up a Safety Group to look at specific aspects.

One particular activity was the holding of a workshop in early December to critique the "see and avoid" issue, and this article is to let everyone know what is going on.

Early December about a dozen GFA members, including representatives from Sporting and Operations plus a number of experienced competition pilots, met to conduct a workshop on the issue of "see and avoid" as applied to gliders. The workshop acknowledged that there has been a lot of discussion and work carried out in the past on this topic, however it was felt we needed to ensure that everything that should be considered and done, was in fact considered. The problem was clearly not solved. The topic was attacked from first principles and a hazard analysis carried out. The analysis was reviewed in all aspects of glider flight eg, thermalling, joining a thermal, circuit area, final glide and each hazard evaluated for that flight aspect.

It was emphasised that many studies of aircraft lookout applied to military or power aircraft. Gliders operate differently with much time spent circling, and frequent changes in altitude when in a glide. The particular hazards for gliders are the prime concern.

In addition, all Australian collisions over the last 10 years were evaluated from the point of view of seeing and avoiding. It is enlightening that there were two common factors in those accidents.

1. *In almost all collisions at least one glider is turning, and normally to the left.*
2. *In all cases one glider is "blind spotted", that is, probably could not see the other, while the other glider should have had a clear view.*

This workshop was seen as a first step to work through this problem. Next step will be the issue of the results of the hazard analysis at competitions and other active sites during the 2002/03 soaring season. Included will be preliminary papers on specific safety aspects that have already been prepared. Obviously the intention is to inform, to seek comment and, frankly, to increase awareness this summer. By the time you read this, hopefully, many will have seen these papers. Your input is welcome and encouraged.

The next step is to organise another session, with appropriate people to progress the discussion and, especially, to consider feedback arising.

This note is a brief for general information only and any final outcomes will have to be complete and properly documented. We will keep you informed.

THE FELIX KRACHT FOUNDATION

Bernd Ewald

FELIX KRACHT WAS BORN ON 13 MAY 1912. DURING HIS STUDIES AT THE RWTH AACHEN HE JOINED THE " FLUGWISSENSCHAFTLICHE VEREINIGUNG AACHEN" AND SOON BECAME A TALENTED PILOT AND SAILPLANE DESIGNER. HE WAS THE DESIGNER OF THE FVA10-B "RHEINLAND". ON 30 MAY 1937 HE BECAME THE FIRST PILOT TO CROSS THE ALPS IN A SAILPLANE. HIS DESIGN FVA10-B WENT INTO SERIES PRODUCTION AT THE SCHMETZ COMPANY. THE PICTURE SHOWS FELIX KRACHT IN THE FVA10-B BEFORE ITS MAIDEN FLIGHT ON 13 MAY 1937, HIS 25TH BIRTHDAY.

During the war Felix Kracht worked with the DFS at Darmstadt and at Ainring.

After the war he worked in the French aeronautical industry. In 1959 Felix moved into the Transall central office at Lemwerder, Germany as a representative of Nord Aviation. His merits about the transport airplane Transall C 160 realised in a French/German cooperation are undisputed. After the Transall development Felix moved back into the German aeronautical industry. In 1967 he became chief manager of the Deutsche Airbus GmbH at Munich and after the foundation of Airbus Industries in 1970 he became Senior Vice President Production. In this position he worked at Toulouse until his retirement in 1981.

Felix Kracht not only was one of the fathers of the Transall and the Airbus, but also an important mentor of the European cooperation. The results are recognisable still all over the world.

After his retirement Felix lived with his wife Gerda at Weyhe near Bremen. He died on 3 October at the age of 90.

To maintain the memory of this great sailplane pilot and designer, his wife, Gerda Kracht, founded the Felix Kracht Foundation. The funds of this foundation are allocated for the preservation of historical sailplanes and their restoration. As a first project the rebuilding of a true historic Horten IV sailplane, started at the Darmstadt University of Technology, shall be supported.

Between 1930 and 1955 the German brothers Dr Reimar Horten and Walter Horten designed a number of successful tailless airplanes. Some of these went into small series production, especially the sailplanes Horten IV and Horten VI, which were superior to most conventional sailplanes of that time and still enjoy a legendary reputation in the aeronautical society. To bring a true historic replica of a Horten plane back into the air, is of highest historical interest.

Certainly the sailplane Horten IV is the most suitable type for a true historic and flightworthy reconstruction. Good flying characteristics are established and the Horten IV undoubtedly is the most beautiful and successful Horten sailplane. A first discussion with the responsible adviser at the Luftfahrt-Bundesamt showed no serious problems for a certification as a single plane. An airworthy Horten IV at flying displays or other aeronautical events will be a sensational attraction.

Project management and trusteeship for the Felix Kracht Foundation will be done by the Hessisches Institut für Luftfahrt e.V. at Darmstadt. This non-profit organisation has a statutory target to support teaching and research in the aeronautical field at the Darmstadt University of Technology.

If you would like to contribute financially to the reconstruction of the Horten 1V then please contact Prof Dr-Ing C Tropea, Director of the Institute, Hessisches Institut für Luftfahrt e.V., Darmstadt, Germany.

GFA Badges & Certificates

FAI Report – March 2003

A CERTIFICATE

Papacek, Benjamin D	10778	Qld Air TC
Ledwidge, Adam W	10779	Qld Air TC
Flood, Robert Patrick	10780	Darling Downs
Austin, David Harold	10782	Caboolture
Carter, Adrian Thomas	10783	Caboolture
Goda, Akinori	10784	Orana
Westlake, Mitchell Hugh	10792	Qld Air TC
Blackmore, Paul David	10794	Darling Downs
Straume, Nathan	10798	Darling Downs
O'Sullivan, Gregory J	10801	Geelong

A AND B CERTIFICATE

Taylor, Peter Norman	10795	Beverley
Straume, Andrew E R	10796	Darling Downs
Wood, Nicholas Stephen	10797	NSW Air TC
Whitman, John Frank	10799	Narrogin
Hughes, Mark Edward D	10802	Darling Downs

C CERTIFICATE

Davis, Jo	10727	Darling Downs
Moffitt, Peter Anthony	10624	Southern Cross
Midwood, Alan Reginald	10667	Darling Downs
Marshall, Trevor James	10774	Kingaroy
Fawcett, Steve	10724	Port Augusta
Smith, Aaron Mark	10750	NSW Air TC
Burgess, Nathan Lee	10601	SA Air TC

A, B AND C CERTIFICATE

Ollivier, David Keith	10775	Bathurst
Addinell, Stuart James	10776	Southern Downs
Wharington, John M	10777	GCV
Radloff, Trevor Alan	10781	Sunraysia
Behrndt, Robert Bruce	10785	Caboolture
Coleman, Benjamin J	10786	Hunter Valley
Izatt, Douglas William	10787	Boonah
Gillman, John Robert	10788	Beaufort
Eriksson, Bengt Johan	10789	Sthn Riverina
Ueda, Junzo	10790	Sthn Riverina
Sherriff, Patrick D	10791	Sthn Riverina
Sonobe, Noriaki	10793	Orana
Sieburn, Jonathon Luke	10800	Adelaide Uni
McQueen, Lex Frederick	10803	Darling Downs
Davidson, Peter John	10804	Caboolture

SILVER C

Hudson, William John	4448	Waikerie
Semmel, Philip John	4449	GCV
Addinell, Stuart James	4450	Southern Downs
Dungavell, Ross Andrew	4451	Kingaroy
Pryde, Richard Fairlie	4452	Southern Downs
Harris, Trevor James	4453	Southern Cross
Nash, David Anthony	4454	GCV
Newton, Mark	4455	Adelaide Uni
Mistry, Bhependra	4456	Bathurst
Stott, Adam Mark	4457	Adelaide Uni
Bart, Paul	4458	Darling Downs
Gillman, John Robert	4459	Beaufort
Euda, Junzo	4460	Sthn Riverina
Sherriff, Patrick Douglas	4461	Sthn Riverina
Berry-Brown, Steven	4462	GCV
Thompson, Graeme H	4463	Orana
Godden, Russ	4464	Lake Keepit
Tankard, Lewis Arthur	4465	GCV
Fialka, Frank	4466	GCV
Moffitt, Peter Antony	4467	Southern Cross
Turner, Colin Ronald	4468	Blanchtown
Salas, Justin Richard	4469	Beverley
Neale, Richard Charles	4470	Southern Cross
Cole, Michael John	4471	Bathurst

GOLD C

Raner, Kevin David	1564	Geelong
Ranftl, Erny Lothar	1565	Sydney Gliding
Long, David Andrew	1566	Geelong
Jackson, Paul Martin	1567	Sydney Gliding

DIAMOND GOAL

Raner, Kevin David	Geelong
Addinell, Stuart James	Southern Downs
Dungavell, Ross Andrew	Kingaroy
Hayhow, Bryan	Southern Cross
Ranftl, Erny Lothar	Sydney Gliding
Nash, David Anthony	GCV
Long, David Andrew	Geelong
Jackson, Paul Martin	Sydney Gliding
Sherriff, Patrick Douglas	Sthn Riverina
Holding, Simon Edward	Alice Springs
Ito, Masayuki	Narrogin
Novak, Eric	Sydney Gliding
Bland, Adam Ward	Albury/Corowa
Salas, Justin Richard	Beverley

DIAMOND DISTANCE

Addinell, Stuart James	Southern Downs
Johnson , Grant Lawrence G	Wagga Wagga
Sanders, Norman Karl	Canberra
Pickles, David Harold	Hunter Valley
Conway, David James	Adelaide Uni

DIAMOND C

Geissler, Hilmer Frank	206	Adelaide Soaring
Johann, Frank Josef	207	Adelaide Soaring
Rock, Graham Frederick	208	RAAF Richmond

600KM DISTANCE FLIGHT

Bull, Richard Philip	83	Bathurst

700KM DISTANCE FLIGHT

Williams, Malcolm Ross	17	Canberra
Brown, George Wayne	18	Adelaide Soaring

750KM DISTANCE FLIGHT

L'Estrange, Heath Edmund	104	Southern Downs
Millott, Lindsay John	105	GCV
Lanau, Clement	106	Adelaide Soaring
Hoye, John Michael	107	Lake Keepit
Rickert, Graeme Barrie	108	Canberra
Hirotsune, Akemi	109	Orana
Edward, Robert Hayward	110	Bathurst

800KM DISTANCE FLIGHT

Anglim, Matthew James	7	Darling Downs
Woolley, Chris	8	Central Qld
Williams, Malcolm Ross	9	Canberra

900KM DISTANCE FLIGHT

Whelan, Mark Leonard	10	G.C.V

1,000KM DISTANCE FLIGHT

Eckey, Bernard Ferdinard	28	Balaklava
Pietsch, David Alexander	29	Canberra

Claims for all badges and certificates to:
FAI Certificates Officer Beryl Hartley
PO Box 275, Narromine NSW 2821
Ph: 02 6889 2733 (w), 02 6889 1250 (h)
Fax: 02 6889 2933, Email <hartley@avionics.com.au>

Decentralised Competition entries to:
Chris Stephens
PO Box W48 Wanniassa ACT 2903
Ph: 02 6231 4121, Email <poboxw48@dynamite.com.au>

Contact Addresses

GFA

NSW Gliding Association (NSWGA)

Australian Air League
NSW Gliding Wing, 1 Perry St, Kings Langley NSW 2147.

Australian Soaring Centre
PO Box 1315, Byron Bay NSW 2481.

Bathurst Soaring Club
PO Box 1682, Bathurst NSW 2795.

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

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

Central Coast Soaring Club
PO Box 1323, Gosford South NSW 2250, 02 49772740.

Cudgegong Soaring Pty Ltd
PO Box 352, Frenchs Forest NSW 1640, 02 94522777, 02 94530777.

Forbes Soaring & Aero Club
PO Box 267, Forbes NSW 2871, 02 68523845.

Goulburn Gliding Group
57 Munro Rd, Queanbeyan NSW 2620.

Grafton Gliding Club
16 Fuller St, Mullaway NSW 2456, Sec: Bob King, 02 66541638 (h), 040 388551, <bobgking@hotmail.com>.

Greenethorpe Gliding Club
Weerona Young Rd, Grenfell NSW 2810, 02 63431375, 02 63431375.

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

Hunter Valley Gliding Club
PO Box 9, Newcastle NSW 2300.

Kentucky Flying Club
The Hill, Kentucky NSW 2354.

Lake Keepit Soaring Club
PO Box 152S, South Tamworth NSW 2340, 02 67697514, 02 67697640.

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

NSW AIRTC Gliding Club
41 Simpson Ave, Forest Hill NSW 2651, 02 69227526.

NSW Police Gliding Club
27 Bourne St, Wentworth Falls NSW 2782, 0427 592744.

Orana Soaring Club
PO Box 240, Narromine NSW 2821, 02 68892733, 02 68891229.

RAAF Richmond Gliding Club
RAAF Base, Richmond NSW 2755.

RAAF Williamtown Gliding Club
C/o Mr AJ Lee, 10 Federation Dr., Medowie NSW 2318.

Royal Australian Naval Gliding Association
PO Box A37, Naval Air Base, Nowra NSW 2540.

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

Soar Narromine Pty Ltd
PO Box 56, Narromine NSW 2821, 02 68891856, 02 68892488.

Southern Cross Gliding Club
PO Box 132, Camden NSW 2570.

Sportavia Soaring
PO Box 78, Tocumwal NSW 2714, 03 58742063.

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

Sydney Gliding Inc. (Concordia GC)
PO Box 633, Camden NSW 2570, 0412 145144.

Temora Gliding Club
PO Box 206, Temora NSW 2666, 02 69772733.

Tumut Gliding Club
PO Box 112, Tumut NSW 2720, 02 69471148.

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

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

Queensland Soaring Association (QSA)

Boonah Gliding Club
PO Box 107, Boonah QLD 4310, 07 54632630.

Bundaberg Soaring Club
PO Box 211, Bundaberg QLD 4670, 07 41553158.

Caboolture Gliding Club
PO Box 920, Caboolture QLD 4510, 0418 713903.

Central Queensland Gliding Club
PO Box 953, Rockhampton QLD 4700, 07 49371381.

Darling Downs Soaring Club
PO Box 584, Toowoomba QLD 4350, 07 46637140.

Gympie Gliding Club
PO Box 103, Gympie QLD 4570, 07 54867247.

Kingaroy Soaring Club
PO Box 91, Kingaroy QLD 4610, 07 41622191.

Moura Gliding Club
PO Box 92, Moura OLD 4718, 07 47733542.

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

No. 229 Squadron Australian Air Force Cadets
3 Hedlow Court, Carindale QLD 4152, 07 33989745, 0148 984752.

Southern Downs Soaring
PO Box 144, Warwick QLD 4370, 07 33781717.

Tarwan Soaring
PO Box 34, Wandoan QLD 4419, 07 46274080.

SA Gliding Association (SAGA)

Adelaide Hills Soaring Group
PO Box 1, Bridgewater SA 5155.

Adelaide Soaring Club
PO Box 94, Gawler SA 5118, 08 85221877, 08 85223177.

Adelaide Uni Gliding Club Inc.., Adelaide Uni Sports Association
The University of Adelaide, SA 5005, 08 88262203.

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

Balaklava Gliding Club
PO Box 257, Balaklava SA 5461, 08 88645062.

Barossa Valley Gliding Club
PO Box 123, Stonefield via Truro SA 5356, 08 85640240.

Blanchetown Gliding Club
C/o 12 Altola Rd, Modbury SA 5092.

Bordertown Keith Gliding Club
PO Box 377, Bordertown SA 5268.

Gawler Gliding Club
PO Box 135, Cockatoo Valley SA 5351.

Millicent Gliding Club
PO Box 194, Millicent SA 5280.

Murray Bridge Gliding Club
PO Box 1277, Victor Harbor SA 5211.

Northern Australian Gliding Club
PO Box 38889, Winnellie NT 0821.

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

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

SA AIRTC Gliding Club
PO Box 2000, Salisbury SA 5108.

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

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

Victorian Soaring Association (VSA)

Albury Corowa Gliding Club
PO Box 620, Wodonga VIC 3689.

Beaufort Gliding Club
116 Tennyson St, Elwood VIC 3184.

Bendigo Gliding Club
62 Lawson St, Bendigo VIC 3550.

Corangamite Soaring Club
Kurweeton, Derrinallum VIC 3325.

Geelong Gliding Club
PO Box 197, Bacchus Marsh VIC 3340.

Gliding Club of Northern Tasmania
12 Delungra Rd, Trevallyn TAS 7250, 03 63346594.

Gliding Club of Victoria
PO Box 46, Benalla VIC 3672, 03 57621058, 03 57625599.

Grampians Soaring Club
PO Box 468, Ararat VIC 3377, 0417 514438.

Latrobe Valley Gliding Club
PO Box 625, Morwell VIC 3840.

Mangalore Gliding Club
PO Box 80, Avenel VIC 3664.

Mount Beauty Gliding Club
44 Roper St, Mount Beauty VIC 3699.

Murray Valley Soaring Club Ltd
PO Box 403, Corowa NSW 2646.

RAAF East Sale Gliding Club
C/o Gary Mason, 9 Weir St, Sale VIC 3850.

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

South Gippsland Gliding Club
PO Box 475, Leongatha VIC 3953.

Southern Riverina Gliding Club
PO Box 78, Tocumwal NSW 2714, 03 58742063, 03 58742705.

Stawell Gliding Club
20 Jones St, Stawell VIC 3380, 03 53582713.

Sunraysia Gliding Club
PO Box 647, Mildura VIC 3500.

Swan Hill Gliding Club
PO Box 160, Nyah VIC 3594.

Tumbarumba Gliding Club
Mundaroo, Tumbarumba NSW 2653.

Victorian Motorless Flight Group
GPO Box 1096J, Melbourne VIC 3001, 0402 281928, 03 98486473.

Wimmera Soaring Club
PO Box 158, Horsham VIC 3402.

WA Gliding Association (WAGA)

Beverley Soaring Society
PO Box 136, Beverley WA 6304, 0407 385361.

Gliding Club of Western Australia
356 Abernethy Rd, Cloverdale WA 6105, 08 92774148, 0409 683159, 08 96351023.

Morawa Flying Club
PO Box 276, Morawa WA 6623.

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

Stirlings Gliding Club
C/o Post Office, Lower King WA 6330.

WA Squadron Australian Air Force Cadets
Headquarters, RAAF Base, Pearce, Bullsbrook WA 6084, 08 95717800, 08 95717877.

HGFA

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

HGFA National Office and General & Operations Manager

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

Craig Worth: 0418 657419, <general_manager@hgfa.asn.au>.

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

Board Members

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

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

Rohan Holtkamp ***(Secretary)***
RMB 236B Western Highway, Trawalla VIC 3373, ph/fax: 03 53492845, 0409 678 734, <Rohan_Holtkamp@hgfa.asn.au>.

Rob Woodward ***(Treasurer)***
38 Addison Rd, Black Forest SA 5035, 08 82325405, 0408 808436, fax: 08 82237345, <rob_woodward@ultimatepositioning.com.au>.

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

GFA MEMBERSHIP FEES 2002-2003

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

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

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

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

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

Zone One		Zone Two	
New Zealand	$54	Singapore	$60

Zone ThreeZone Four			
Japan, Hong Kong, India	$60	Middle East	$66

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

Nigel LeLean ***11 Mullaway Rd, Lake Cathie NSW 2445, ph/fax 02 65854723, 0419 442597 (m).***
Bill Moyes ***173 Bronte St, Waverley NSW 2024, 02 93875114, fax: 02 93693342, <Bill_Moyes@hgfa.asn.au>.***
John Reynoldson ***68 Teddington St, Hampton VIC 3188, 03 95970527, fax: 03 9598 1302, <John_Reynoldson@hgfa.asn.au>.***
Mark Thompson ***40 Hovia Terrace, Kensington WA 6151, 08 94912417 (w), 0428 729028, <mark.thompson@team.telstra.com>.***

Microlight Public Relations

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

States & Regions

ACTHGPA

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

Hang Gliding Association of WA

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

NSW Hang Gliding Association

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

North Queensland HG Association

12 Van Eldik Ave, Andergrove QLD 4740; Pres: Graeme Beplate 07 49552913, fax: 07 49555122, <sitework@mackay.net.au>; Sec: Ron Huxhagen 07 49552913.

South East Queensland HG Association

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

South Australian HG Association

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

Tasmanian Hang Gliding Association

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

Victorian HG and PG Association

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

Clubs

New South Wales

Blue Mountains HG Club Inc.

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

Byron Bay Hang Gliding Club Inc.

PO Box 1903, Byron Bay NSW 2481, [http://bbhgc.tripod.com/]. Pres: Joe Scott 0415 717141, <skylimit@mullum.com.au>; V-Pres: Eddie Grey 02 66841795, <edgrey@linknet.com.au>; Sec: Ward Gunn 0414 356588; Trs: Maggie Clarke 0404 263524, <sneering_grins@hotmail.com>; SSO: Ashley Willmott 0428 560248, <ashley@lis.net.au>.

Dusty Demons Hang Gliding Club

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

Hunter Skysailors

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

Illawarra Hang Gliding Club Inc.

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

Kosciusko Alpine Paragliding Club

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

Manilla SkySailors Club Inc.

[www.FlyManilla.com]. Pres: Kevin Chisholm 0404 944395; V-Pres: Suzy Smith 02 6785 6545; Sec: Paul Cox 0417 355897; Trs: JJ Bastion 0427 161504; SSO (HG): Patrick Lenders 02 67783484; SSO (PG): Godfrey Wenness 02 67856545, SSO (Towing): Rhett Rockman 0428 428962; Trikes: Will Ewig 02 67697771.

Mid North Coast HG Association

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

Newcastle Hang Gliding Club

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

Northern Beaches HG Club Inc.

Pres: Kerry Bradley; V-Pres: Mark Robertson; Trs: Jim Gaal; Sec: Nils Vesk; SSO (HG): Glen Salmon 02 99180091; Wayne Fitzgerald 02 99827094; SSO (PG): Mike Brandt 02 98912391; Wayne Fitzgerald 02 99827094. Meetings: 1st Tue/month, 7pm, Mona Vale Bowling Club.

Stanwell Park HG and PG Club

PO Box 258 Helensburgh NSW 2508; Pres: Robert Lepre 0411 082642, <pepielepre@ozemail.com.au>; V-Pres: Shannon Black 0414 344363; Sec: Darryl Millington, 0413 978784; Trs: Andrian Le Gras 0417 027 771; SSO: Rob Lepre (HG), Martin Wykoski 0410 575025 (PG). Editor: Nick Purcell 0414 779191, <npurcell@ihug.com.au>.

Sydney Paragliding Club

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

Victoria

Dynasoarers Hang Gliding Club

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

Melbourne Hang Gliding Club Inc.

PO Box 8057, Camberwell North VIC 3124; [www.vhpa.org.au/melbourne/], <melbourne@vhpa.org.au>). Pres: Andrew Medew 0425 702957; Sec: Vanessa Sparke 03 9458 3780; SSO: Geoff Tozer 03 97583250, Kevin Grosser 0419 022225. Meetings: 3rd Wed/month at 6:30pm at the Palace Hotel, 893 Burke Rd, Camberwell.

North East Victoria HG Club Inc.

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

Sky High Paragliding Club

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

Southern Microlight Club

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

Western Victorian Hang Gliding Club

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

Queensland

Cairns Hang Gliding Club

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

Canungra Hang Gliding Club Inc.

PO Box 41, Canungra QLD 4275; [www.triptera.com.au/Canungra]. Pres: David Philp 07 55450378, 0407 375035, <pandion2@bigpond.com>; V-Pres: Raphael Mackay 07 55345190; Sec: Karen Sexton 07 55277636, 0410 433711, <kazbahtoo@yahoo.com.au>; Trs: Cameron McNeill 0419 706326, <cameronmcneill@energex.com.au>; SSO (PG): Andrew Horchner 0412 807516, <afactor@gil.com.au>; SSO (HG): Ken Hill 07 55435631, 0418 188655, <kenhill@iprimus.com.au>.

Central Queensland Skyriders Inc.

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

Conondale Cross-Country Flyers Inc.

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

Dalby Hang Gliding Club Inc.

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

Mount Isa Soarers

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

Sunshine Coast Hang Gliding Club

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

Townsville HG Association Inc.

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

Whitsundays HG Club

Pres: Graham Lee 07 49546726, <gdsrlee@hotmail.com>; Sec/Trs: Ron Huxhagen 07 49552913, fax: 07 49555122, <sitework@mackay.net.au>

Northern Territory

Alice Springs HG and PG Club

Pres: Brett Lewis 0411 677705.

Western Australia

Albany Hang Gliding Club

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

Cloudbase Paragliding Club Inc.

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

Goldfields Dust Devils Inc.

9 Broadarrow Rd, Kalgoorlie WA 6430. Pres: Murray Wood 08 90215771, Sec: Mark Harrop 08 90228528, Trs: Peter Harris 08 90219234, SSO: Mark Stokoe.

Hill Flyers Club WA

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

South West Microlight Club

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

Western Soarers Hang Gliding Club

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

Classifieds

GFA

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Single-Seater Sailplanes

STD JANTAR 2 – IZT, low hrs, excellent cond, always hangared, always privately owned & based at Gulgong, full panel, ground handling gear & trailer, LS4 performance for 1/2 the price. $30,000. Ph: Neil Bennett 02 47394900, 0438 761 472.

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STD LIBELLE 201B. Flies well, good appearance. Fitted with a GPS, Joey & Dittel radio. Enclosed trailer & tow-out gear. New dust covers (wings, canopy & tailplane). Ph: John 03 93282536, <johnhrobinson@bigpond.com>.

PW-5 WORLD CLASS GLIDER TT 90 hrs, as new, fully equipped incl. parachute, custom built fully enclosed trailer. Ph: 02 62901338.

ES-KA 6 GRV. Absolute immaculate cond, new polyfibre fabric overall, new two pack white, new canopy, basic instruments, open trailer, ideal Club Class, fun to fly, 31:1. Schneider's first in Australia, better than new, $10,500. Ph: 02 66847572, <thomas_dattler@optusnet.com.au> for photos.

M200 FOEHN, 18m, easy to fly even for first solo. Staggered seating, perfect for instruction. L/D @ 53kt – 32:1. Aircraft in factory fresh cond. 2,500 hrs. Never winched. Always hangared. Ph: John 03 97875922. Glider $13,000. Open trailer $2,000.

Two-Seater Sailplanes

FOR SALE. Located at Boonah Gliding Club: Slingsby T53b & K7 together or separately. Both are flying currently & are complete with trailers. The 53 is in good condition & has 12 mths Form 2. K7 is in good condition. All offers considered. Ph: Secretary Rob Izatt 07 54632630 (w) or 07 32558499 (h).

K13, well maintained by Kingaroy Soaring Club is for sale as part of a fleet upgrade programme. Incl. open trailer in as new cond. $28,000. Ph: Peter 07 38861267 or Darryl 0409 623310.

L13 BLANIK, trailer, basic instruments, new C of A $13,000 ono. Ph: Beryl 02 68892733, fax: 02 68892933, <hartley@avionics.com.au>.

Self-Launching/Motor Gliders

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

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

DG400 Based at Camden, own T-hangar complete with all ground handling equipment, trailer & parachute. Well equipped with low engine & airframe hrs. Rare opportunity to buy a 1/4 share in a good syndicate. $29,000 ono. Ph: Terry 02 46556212, 0417 239332 or <terryoxborough1@optusnet.com.au>.

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

DIMONA H36 TOURING MOTOR GLIDER Excellent short take off & climb performance, stalls at 38kt & soars like a Twin Astir. Cruises up to 90kt with side by side seating. Wings fold back for easy storage, completely refinished & in near new cond., $87,000. Ph: Rob 0429 493828 or Nigel 0418 841631.

MOTOR GLIDER SHARES in Motor Faulke $15,000. Located Mudgee area, or consider complete sale. Ph: 02 99587311.

BRASOV IS28M2 motor glider, 2,050 hrs since new, new Limbach/Aeropower 75hp engine with dual ignition, Hoffman three-position prop nil since overhaul, new Ceconite controls, recent 20 year inspection by Airag Bankstown. Excellent cond. throughout. $57,500. Ph: Dave Pyett 02 93448589, fax 02 93448607, <dpyett@bigpond.com.au>.

General

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

PARTIALLY BUILT KIT SAILPLANE. Incl. materials, red'g trailer. Reluctant sale. Ph: 0408 744013.

Instruments and Equipment

NEW PARACHUTES: Short pack ATL M88/90 – $1,995, Slim line long pack ATL 88/92-S – $1,995 includes GST. Airborne Avionics P/L Ph: 02 6889 2733, fax: 02 6889 2933, <hartley@avionics.com.au>. Supplied with current CASA. JAR. FAA approval.

Gliding Publications

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

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

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

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

SAILPLANE & GLIDING: The only authoritative British magazine devoted entirely to gliding.
52 A4 pages of fascinating material & pictures with colour. Available from the British Gliding Association, Kimberley House, Vaughan Way, Leicester, England. Annual subscription for six copies £17.50.

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

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

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

HGFA

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(Note that the above does not apply to commercial operators. Instructors may place multiple classified entries, but will be charged at usual advertising rates.)

Hang Gliders & Equipment

NEW SOUTH WALES

AIRBORNE CLIMAX 13 adv, y/w EC, $5,900. Apex Apco chute, 16-gore pull down, three years old, $550. Scorpion harness, 30 minutes airtime, $900. Ph: Mick 0425 285866.

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

AIRBORNE CLIMAX 14 adv, one owner, 47 hrs, with aerodynamic A-frame, incl. spare DT, manual & batten profile. Full colour aqua US, in GC, $6,500. Ph: Les 02 49682994.

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

MOYES CSX5 adv, dark blue/light blue US, power rib TS, flies nice, GC with 2 spare DTs & base bar, $1,600. Ph: 0417 068218; <sarbs@iprimus.com.au>.

MOYES LITESPEED 4 adv, fast bar, thin wires, recently professionally tuned. Looks good, flies better, still has original DTs, $6,700. Ph: Kath or Lee 02 64561590 (h); 0427 220764; <kat@katabatic.com.au>.

MOYES XT 145 nov/int, GC, blue/red US, spare DTs, $1,700. Ph: Kath or Lee 02 64561590 (h); 0427 220764; <kat@katabatic.com.au>.

VICTORIA

AIRBORNE STING 154 int, 60 hrs, Moyes harness, $2,600. Ph: Peter 0411 127335.

MOYES CSX5 adv, red/white, well looked after & in EC. Test fly welcome, idle low cost, high performance glider, $2,000. Ph: 03 97621364.

MOYES SONIC 165 int, about 70 hrs airtime, wheels & new sidewires, VGC, $2,200. Air Support custom front entry harness, blue, VGC, $500. Hi Energy Quantum Chute (USA) with swivel, two yrs old, repacked twice, EC, $500. Bräuniger Basis vario, VGC, $300. Icom 40S with spare battery & charger, VGC, $300 or save $500 & buy the whole lot for $3,300. Ph 03 97408853 (h); 0413 278552.

QUEENSLAND

MOYES SX4 adv, 130 hr, PX10/PX20 mylar sail (same type as Litespeed), flies straight & in great cond. Ideal first adv glider before spending big on a new glider, $2,200. Ph: Rod 07 55450969; 0428 132215.

MOYES XR 149 adv, EC, incl. harness, full-face helmet, spare DT & other items, $1,900. Ph: Jeremy 07 32258380; 07 33516505.

SOUTH AUSTRALIA

AIRBORNE STING 175 XC2 (int) & Powerlite Trike made by Airtime Products, brand new, flown for 10 minutes only, red & white wing, all in EC. Costs $13,000, sell for $9,000 ono. Both have carry bags, ready to fly, save $$$ on new price. Can be seen in Adelaide, freight costs neg. Ph: Ian 08 82899940; 0412 885785.

Paragliders & Equipment

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HUMMING PG WING 85-105kg with DK Wisper harness & backpack motor. I have just fitted new props & will take a sensable offer around $5,000. Ph: 02 48712746; 0401 006506.

PARAMOTOR FLY CASTELLUCIO MACH 3, solo 210cc, electric start, VGC, also incl. batteries, charger & carry bag. 65 hrs, $5,000, photos available by email <jeffmonica.brown@bigpond.com>. Ph: Jeff 02 68691169.

SOUTH AUSTRALIA

SWING MISTRAL DHV 1-2, large (95-125kg), as new, only test flown, with 300 hr warranty, outstanding performance. New $4,800, selling for $3,500. Ph: 08 83392428; 0418 819340.

WESTERN AUSTRALIA

SUP'AIR HARNESS, brand new, zero hrs, 2002 model 'Evolution Modulation', blue, medium size, $650 neg. Ph: Rachel 0402 132780; <rachpoon@hotmail.com>.

Trikes & Equipment

QUEENSLAND

AIRBORNE EDGE EXECUTIVE, 430 hrs since new, exceptionally well maintained & fully logged, 582 electric start, perfect cond, $14,900. Airborne Buzzard, 90 hrs since new, 503 air cooled, Edge wing, as new, $10,900. Ph: Allen 07 55773781 (h); 0414 602285.

WESTERN AUSTRALIA

AIRBORNE EDGE 582 T2-735, with Edge wing, 350 hrs, GC, full instrumentation, always hangared, $18,000. Ph: Chris 08 99411803 (w); <cjones@gdc.wa.gov.au>.

Stolen

QUEENSLAND

TWO PARAGLIDERS have been stolen from a car in the Canungra area. A red & white Advance Omega 4 (M) with a black harness & brown Paradelta rescue parachute, & a red & grey Advance Bi-beta with a red & grey Trekking harness & a black & grey Sup-air harness for the passenger & yellow tandem rescue parachute. Santiago Ayala (ph 0413 797571) would be grateful for any information given.

TWO PARAGLIDERS have been stolen from a car in Townsville. An Advance Epsilon 4, orange (main colour), black, yellow thin line (these are special colours, rarely available), the glider is damaged (cut), the harness is a blue Supair Evolution with rescue parachute, helmet, Flytec 4005 vario & Magellan 300 GPS, all within a dark blue/grey Advance backpack, all owned by Marcel Schoch <thetallone@gmx.ch>. The other paraglider is an Advance Epsilon 3, yellow (main colour) & blue, the harness is a grey Supair Evolution with rescue parachute, helmet & Garmin 12 GPS, all within a blue/yellow Advance backpack, all owned by Marc Zimmermann <marcz_zimmermann@hotmail.com>.

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