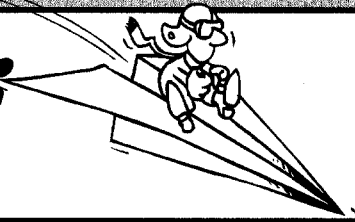
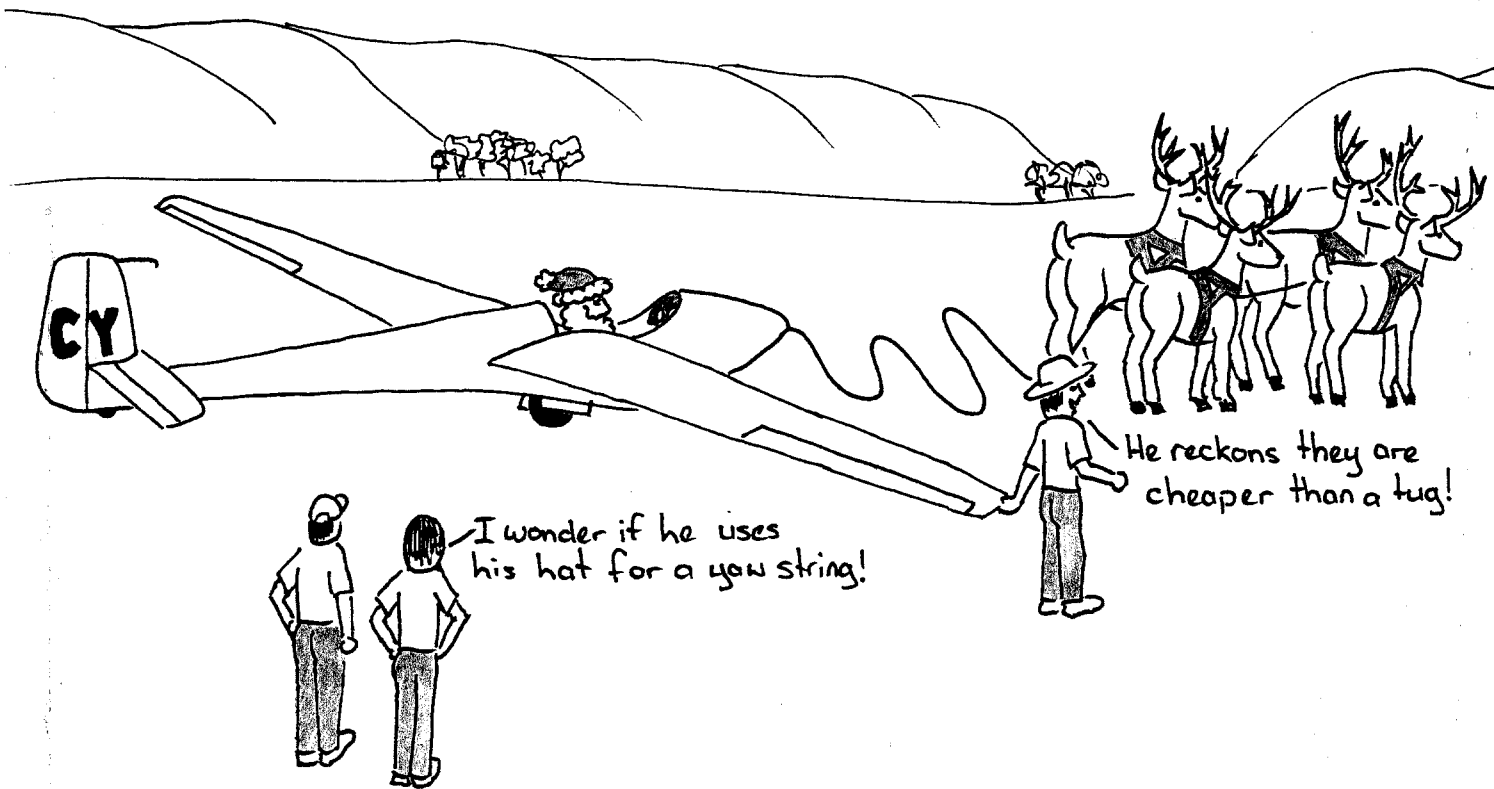


Uni



Gliding

The Official Journal of the Adelaide University Gliding Club



**MERRY CHRISTMAS
AND A
HAPPY NEW YEAR**

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STOP PRESS

Renmark Regatta is on 6 and 7 Dec 97. Have a go at competition cross country soaring and book a seat in an aeroplane. Call the contact person for details.



Congratulations to Cathy and David Conway on the birth of the second son Peter Thomas Conway at 6:12 pm 12 Nov 97. Obviously the Conway's are well on the way to creating: AUGC The Next Generation! Redmond Quinn won the bottle of wine for closest guess to the birth day and time.

PRESIDENTS CHRISTMAS SPEECH

Dear Members,

The yuletide season is again upon us and exams soon over. And that means, summer soaring season!!! If this last week is anything to go by (scorching temps), some reasonable flights should be attained. Have you set your goals? Will you acheive them?

With the hot weather as well, PLEASE take extreme care with preventing dehydration, sun burn and possibly hypoxia. A dehydrated, sunburnt possibly hypoxic pilot is an unhappy and dangerous pilot! Some notes:

- A normal 70 kg person sitting down doing nothing at 25°C requires 2.5 litres of water per day.
- Engaging in heavy work out in the sun on a hot day, you may require in excess of 4 litres of water per hour!
- Maintain your energy reserves in the hot weather. Eat sensibly and avoid over-exertion.
- Wear appropriate and comfortable clothing for the day.
- Wear a hat that shades your face and neck. Consider wearing a bandana.
- Wear UV filtered sunglasses, UV radiation can casue cataracts.
- Use ample quantities of sunblock (and one that doesn't sting the eyes) and apply it frequently.
- Be careful of high altitude hypoxia after flying in that turbo thermal!
- The civil aviation regulations state that supplemental oxygen is required for the P1 pilot above 10,000 feet and the P2 pilot above 12,000 feet. (There is some rumour that the P1 altitude may change to 12,500 feet). Note that as glider pilots, we tend to ascend and descend, so our actual times above 10,000 may be short. However the rules are stated as above, interpret them how you wish!
- All the prior points about dehydration, sunglasses and sunburn apply in the cockpit as well as on the ground.
- Please be careful about fire risks on the ground. Make sure the fire trailer is at the launch point. If your car has a catalytic converter, don't park it over dry long grass, you'll start a fire!

Well after all that, have fun (but be careful). Fly safely and in comfort,

Michael

P.S. Don't forget the X-Mas BBQ at the Conway's on Friday December 12.

EDITOR'S PAGE

Hi, welcome to my 'Christmas Special Edition' Uni Gliding.

This edition is especially large because I am being lazy and will not produce another newsletter to the end of January (I have holidays too!). So sit back and enjoy some holiday reading and relaxing.

This month exhausts my meager stash of articles written by people; thanks to Gary Hollands for his latest efforts and to Steve McGuiness. It also features the continuing design of Redmond's Glider.

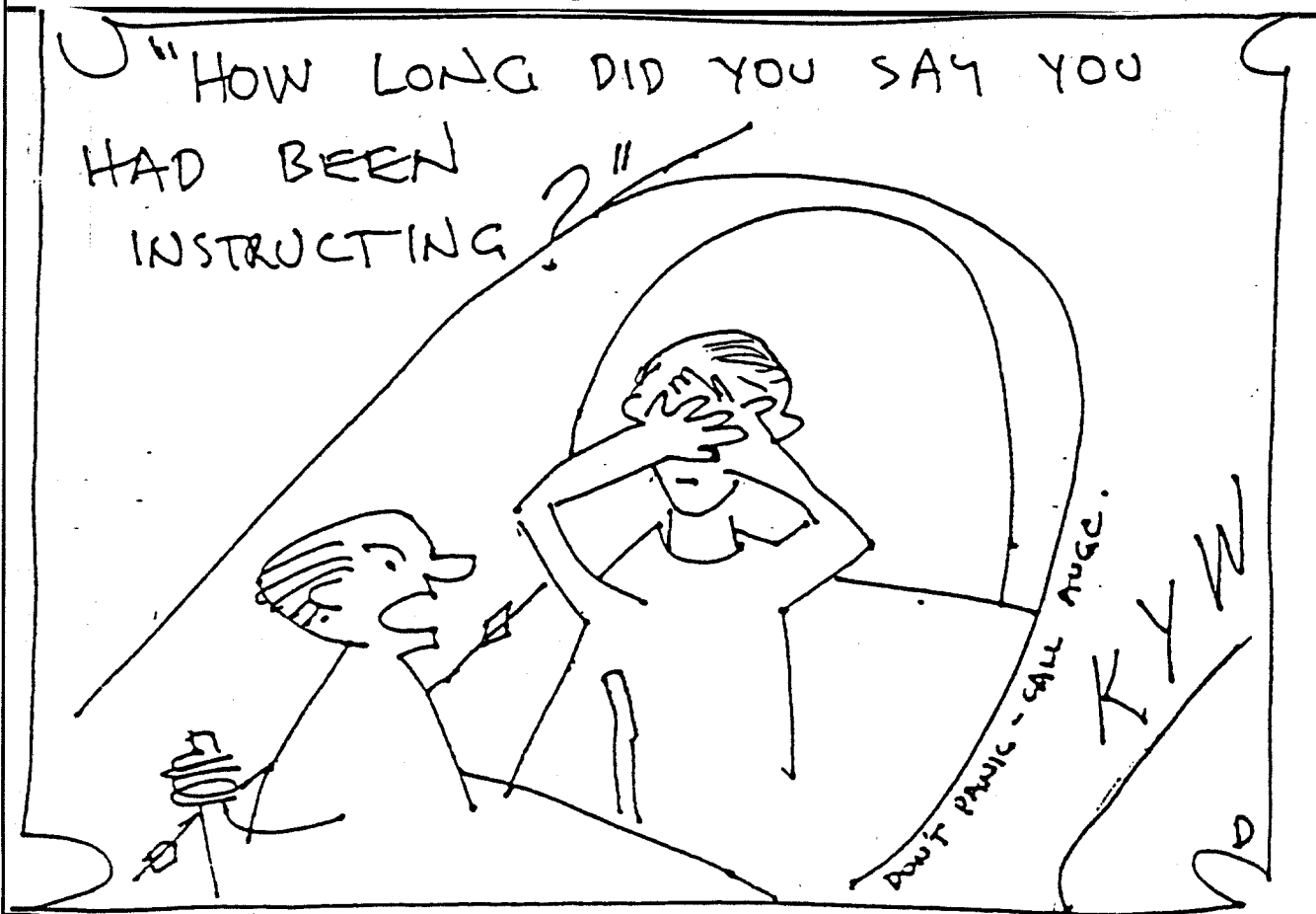
In the last edition, I purposely tried not to pick on Claire. This month I will go a step further and 'pick on' myself (Claire said she would write an article and pick on me but I haven't seen it yet). As many of you know, Mandy Wislon and myself are doing our instructors course. It is appropriate that this month's Don Hein cartoon is devoted to us. This one comes from November 1989 when Dave Teagle, Cathy Conway and Peter Temple

did their instructors course.

The summer holidays also means holiday flying. This is a great way to escape the city and enjoy summer as well as pile up some flying time. The thrill of thermaling to 10,000 ft is incredible and the view is outstanding covering the Adelaide Hills and the 'foot' of Yorke Peninsula all the way through to the Southern Flinders Ranges. Typically there is flying from Boxing day through to the New Years weekend as well as other weeks. If you are interested, give me a call and I'll let you know what is happening.

Hope to see you at the Christmas Party and if not, I hope you have a merry Christmas, a happy new year and great flying,

Anthony
(Editor and Contact Person)



SANTA CLAUS IS COMING TO TOWN... OR IS HE?

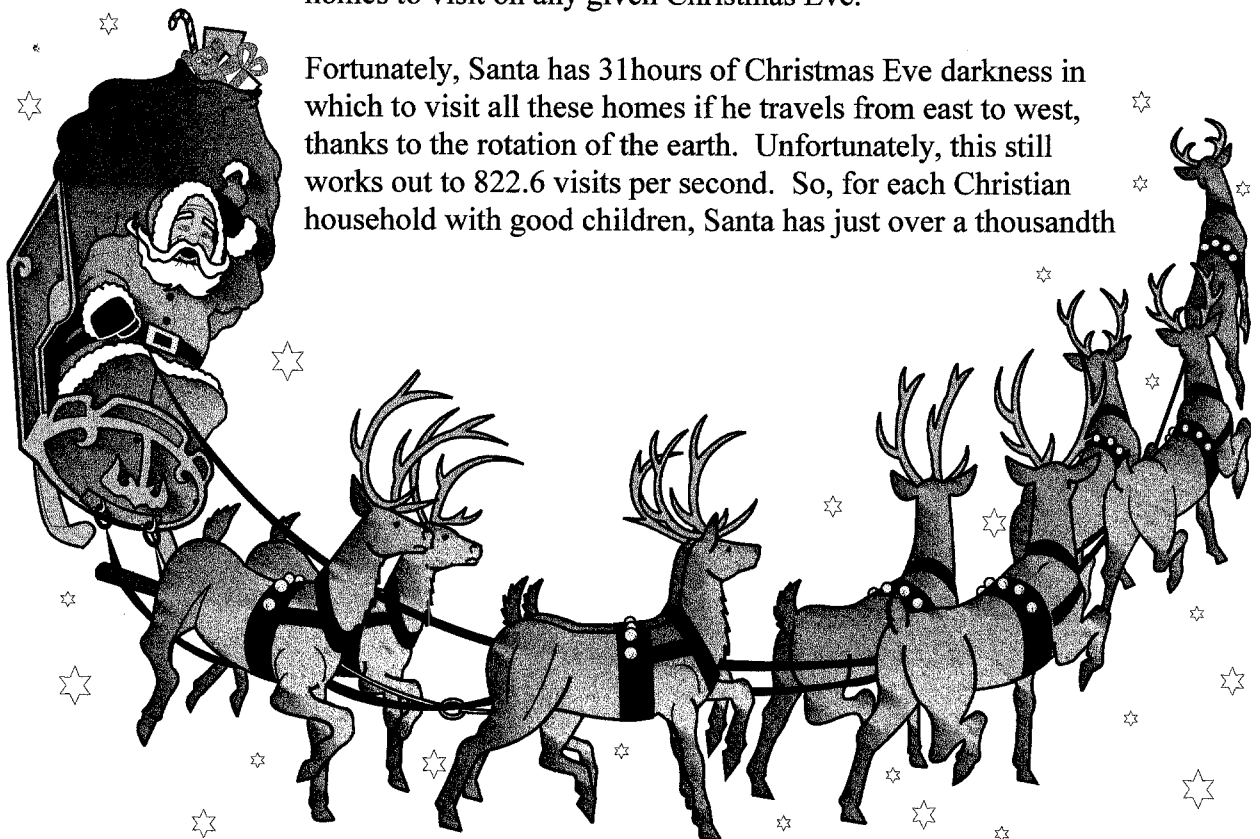
Do you believe in Santa Claus? This is a complex question that everyone must decide for him- or herself. Until now. With the aid of computers I have conducted a rigorous statistical investigation into the question of Santa's existence.

I begin our investigation by assuming that Santa Claus really does exist. Now, if you've learned anything about human nature, you know it's highly unlikely that a normal man would choose, for no particular reason, to devote his life to making toys and delivering them to boys and girls the world over. But this is an objective inquiry, and questions of motivation aren't relevant. We want only to know whether such a man could accomplish his mission.

Santa's first obstacle is that no *known species of reindeer can fly*. However, scientists estimate that out of the earth's roughly 2 million species of living organisms, 300,000 or so have yet to be classified. So, even though most of these undiscovered species are insects and germs, we can't rule out the slight possibility that a species of flying reindeer does, in fact, exist. And that no-one besides Santa has ever seen one.

A bigger obstacle for Santa is that there are 2 billion children under the age of 18 in the world. The good news is that he needs to deliver presents only to *Christian* children, of whom there are approximately 378 million. Let's assume that 15 per cent of these Christian children have been bad and are thus - like Muslim, Hindu, Jewish and Buddhist children - ineligible for gift-getting. Still, at an average rate of 3.5 children per household in the world, Santa has a backbreaking 91.3 million homes to visit on any given Christmas Eve.

Fortunately, Santa has 31 hours of Christmas Eve darkness in which to visit all these homes if he travels from east to west, thanks to the rotation of the earth. Unfortunately, this still works out to 822.6 visits per second. So, for each Christian household with good children, Santa has just over a thousandth



of a second to land, hop out of his sleigh, jump down the chimney, fill the stockings, distribute the other presents under the tree, eat whatever snacks have been left out, get back up the chimney, climb back into his sleigh, take off and fly to the next house.

How fast is Santa moving? Assuming that all 91.3 million stops are spread evenly over the earth's landmass. Santa must travel 1.27 kilometres per household - a total trip of 116.76 million km. (This is a conservative estimate, of course. It doesn't include trips across oceans, feeding stops for the reindeer, etc.) Given the 31-hour time period, Santa's sleigh must maintain an average speed of 1,046.5 km per second, or more than 3,000 times the speed of sound.

To give you an idea of how fast that is, the fastest man-made vehicle ever built, the *Ulysses* space probe, travels at a relatively poky pace of 44.1 km per second, and conventional, land-bound reindeer travel at a top speed of 24 km per hour. But let's just assume that Santa's flying reindeer are somehow able to reach hypersonic speeds - thanks, say, to the magical spirit of Christmas giving.

Let's take a closer look at Santa's vehicle. First of all, assuming an el cheapo 1 kg of presents per child (that's like one Lego set), the sleigh must still be able to carry a load of 321,300 tonnes - plus Santa, an overweight man. On land, a reindeer can't pull more than 150 kg of freight and even assuming that flying reindeer could pull 10 times that amount, Santa's massive sleigh has to be drawn by 214,200 beasts.

They increase the weight of the overall Santa load to 353,430 tonnes (not including the weight of the sleigh itself). This is more than four times the weight of the *QEII* ocean liner. Imagine: Santa skimming over rooftops in a gargantuan hypersonic aircraft with even less manoeuvrability than a battleship.

This is where things get really fun. Three hundred and fifty-three thousand tonnes of reindeer and presents are going to create an enormous amount of air resistance - especially at 1,047 km per second. This air resistance will heat the reindeer in the same way that spaceships are heated up when they re-enter the earth's atmosphere. According to my calculations, the lead pair of reindeer will absorb 14.3 quintillion joules of energy per second each. This means they will burst into spectacular multi-coloured flames and vapourise almost instantaneously, exposing the next reindeer behind them. As Santa continues on his mission - leaving deafening sonic booms in his wake - charred reindeer will constantly be vapourised from the front of the team. All 214,200 reindeer will be dead within 4.26 thousandths of a second.

As for Santa, he will be subjected to centrifugal forces 17,500.06 times greater than gravity. A 125 kg Santa will be pinned to the back of his sleigh by 2,187,383 kg of force (after we deduct his weight). This force will kill Santa instantly, crushing his bones, pulverising his flesh, turning him into pink goo before finally being vapourised shortly after the last reindeer. In other words, if Santa tries to deliver presents on Christmas Eve to every qualified boy and girl on the face of the earth, he will be liquified then evaporated.

If he even exists, he's already dead.

So where do the presents come from? Weirdly kind-hearted intruders? Stupid robbers? Magic? Your own parents, may-be? I won't insult your intelligence with the answer. Have a Merry Christmas and a prosperous New Year.

Anthony

FROM THE EXECUTIVE MEETING

The intent of this page was to highlight some of the decisions and discussions carried out at the monthly executive meetings. These meetings are where the committee runs the club and are not as boring as you think. This page is not intended to cover all of the decisions or the minutes of the meeting to the nth detail.

General Stuff

There are a number of things being done around the club to improve things, quite aside from the major projects, like the new hanger or winch. For example: a new radio is being fitted to the Bergfalke and the Club Libelle by Kevin Zietz and myself.

Financial Things

Raj presents a summary of the financial standing of the club each month. As of 18 Nov we had:

Operating Account	\$5 885.20
Cash	\$ 0.00
Total	\$5 885.20

For the previous four weeks cash flow:

Cash In	\$1 050.40
Cash Out	\$1 571.52

We currently have a very fortunate problem. The club has nearly \$6 000 from the operating grant left to spend and we have to spend it by the end of the year (after all it is the christmas season). So look out for a lot of things being bought and fitted at Lochiel. If you are asked to buy something, remember that we purchase items sales tax free. The sales tax exemption forms are arranged through the Sports Association office and can be faxed to you or where you want to purchase from.

Super Arrow VH-GTJ

If you were not aware TJ is up for sale to a good home. Sure it needs a little work, but have a look

at QZ and see just how good a Boomerang or Super Arrow can be. All enquiries to Redmond.

Northern Windsock

The northern windsock is in need of a new mount on top of its pole. A few volunteers are required to take the windsock down so that a new mount can be manufactured.

Aircraft Logbooks

It is very important that the aircraft logbooks are correctly filled out at the end of each day. There are a few mathematically challenged people in the club who have trouble adding up the hours and the number of take-offs. A recent update of logbooks indicated that a few of our aircraft are reportedly able of an incredible number of take-offs and landings in a single day (1,000 's) which is not quite correct.

Cushions

A couple of dedicated members have made up cushions to fit the aircraft. Typically, these cushions along with tow ropes and ballast get put in cars during operations. Please check that all of the cars have been cleaned out of all aircraft items before they leave Lochiel. It is also a good idea to check your car now because the club is missing some thin, brown cushions specifically made for the Bergfalke. If you know their whereabouts let me or Mandy know.

Regatta

The AUGC regatta is being held 27 and 28 Feb 98 and I have been appointed as competition director. This promises to be a lot of fun and it is well worth booking an aircraft if you are interested in having a go at a cross country competition, especially since its being held in 'our' area.

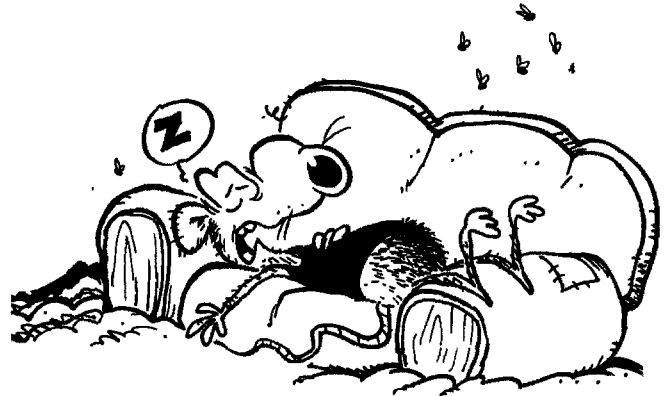
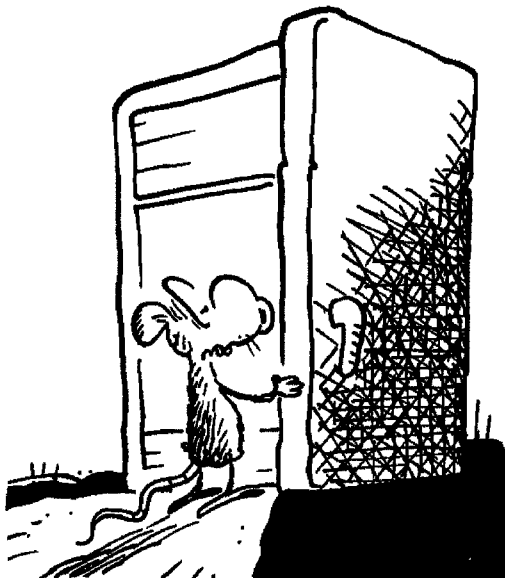
Anthony

THE CLUBHOUSE

There are many many things in the club that are not essential to gliding but are nice to have. One of those things is the clubhouse. The clubhouse has been put together over the years by members of the club for the use of members of the club. It has a slightly rough appearance due to its amateur builders and generally 'fix it 3 months after it breaks' maintenance. It is also filled with hand me down furniture that people have donated over the years.

There are a number of projects happening (or about to happen) to spruce up the clubhouse:

- Re-arranging the clubhouse furniture to a more functional design that allows more storage and a pre-flight planning/post-flight printing desk. (This has already started)
- Air-conditioning that works.
- A reduction in the mice population (the toaster appears to be very effective in electrocuting mice) and keeping them out of the clubhouse.
- Better furniture, that is more suited to the Lochiel environment (ie mouse resistant).
- A flyscreen on the main door.



- Repainting the interior and door/window frames.
- Putting 'Lino' on the floor rather than the bare concrete.
- Finishing the details of the second toilet / shower.
- Curtains for the windows.
- Grass on the front and back yards.

If you have any ideas on improving the clubhouse then let one of the committee members or myself know.

Wanted: Reasonable condition, seconhand single bed mattresses for the bunks in the clubhouse.

However, there are a few rules to using the clubhouse. The first is to clean up after yourself, especially any dishes or cutlery you use. Make sure any rubbish is placed in a garbage bag in a bin, especially food scraps or wrappers.

At the end of the last day of flying ensure that all the clubhouse rubbish is bagged and someone take it to the bins at Port Wakefield (if you don't then it attracts the mice during the week and smells bad next weekend). Also ensure that the stove is turned off and all the lights are off.

If everybody helps, then we will have a great 'home' for years to come.

PREPARING FOR BADGE FLIGHTS

This subject is the most overlooked aspect of attempts for FAI Badge flights. AUGC Cross Country lectures attempt to forcefully stress this aspect of gliding. The question is, **what is full preparation?** I am reminded of the Hollands Motto: "There is absolutely no substitute for a complete lack of preparation"

My own most recent denouement was set in train some weeks before the badge attempt. To illustrate: I most recently attended the Stirlings Wave camp with the naked ambition of gaining my Diamond Height (5000 Metres height gain) to complete my triple Diamond in the one vintage aircraft. Having attended Wave Camps purporting to have Wave on eight former occasions, I have a fair idea of the equipment, logistics and preparation required to attempt wave flying 2700 kilometres from home. Having climbed above 19,500 feet on three separate occasions I am well versed in the radio, oxygen and health aspects of altitude flight. Having done the distance SA to WA some 15.8 times before, I was fairly confident of the vehicular necessities required.

However, as a good little prepared vegemite:

General Preparation:

- Review the desired weather. A North West wind increasing in velocity with height creates the wave condition at the Stirlings. Generally an approaching Low cell will generate the desired conditions;
- Accommodation booked a year in advance;
- Airline tickets bought for my spouse, as Sue cannot get leave apart from school holidays and I want to leave two days prior to the camp to be available on the first flying day of the camp. If wave is going to happen, it will happen when you are least ready;
- Airline ticket (Perth - Adelaide) bought for my daughter Karin so that I can stay several days (desperation contingency planning) after the Wave camp officially ends in case wave turns up;

Car:

- I had two new tyres put on the car with wheel alignment and balance, the two rear tyres would safely see out the trip to be replaced after return, and the spare has never been used on the car since new, brake pads inspected and replaced as necessary, tune up ;

Aircraft:

- The aircraft had just completed a form two, with cold rated grease used exclusively and new aircraft battery;

Trailer:

- The trailer's lights, draw bar area, door catches, tyres, bearings, spare bearing and aircraft restraints were checked;

Equipment:

- I purchased an oxygen regulator (previously hired each time) and ensured that I took two full bottles of oxy and a complete, tested, oxygen system with sufficient spares as could be reasonably managed;
- Electronic Barograph battery replaced, required printer and cables packed and a portable PC with Flight Gloating Analysis software packed;

→ Maps, Wave handbook read and included, radio and base radio packed;

Contingency Planning:

- Organise launch method for after the Wave camp officially ends in case wave turns up;
- Organise Official Observer for after the Wave camp officially ends in case wave turns up;
- Organise accommodation for self for after the Wave camp officially ends in case wave turns up;
- Organise an office competition on 'How high will I get at the Wave Camp' to provoke the wrath of the GODS and so ensure Wave will arrive after the designated dates of the Wave Camp. Apologies to those who attended the wave camp not knowing that a Homeric struggle of wills would naturally thwart them.

What more could be done in preparation I ask ?

So the planning and preparations are complete and now turn to the chronology of events:

Arrived refreshed for the first day of the Wave Camp having passed a stationary glider trailer(which had travelled only 30 Kms) with a wheel dangling off the axle, powdered bearings, course ground castellated nut, and a \$70000 glider inside. One Brownie point to my preparation;

Day two of the wave camp and the tall local pilot who can only fit in the host club Astir finds that said aircraft does not have the oxy bottle and the Jantar with oxy equipment is too uncomfortable to be contemplated. One additional Brownie point to my preparation ;

Day three and the same pilot goes to the Twin Astir to 'sort out the oxy system' so that he can claim it for a solo wave flight and finds same deficient of a oxygen bayonet fitting. Another local consoles him with these words. "That was missing last year as well." One additional Brownie point to my preparation;

Day eight and the wave camp closes with no appreciable wave events. So much for preparation if the weather doesn't cooperate. Aha, but you forget my taunt in the face of the GODS.

The day following the exit of the wave camp participants provides suitable winds for light slow wave to 23,000'. Inexorably my preparation swings into fruition and I attempt a Diamond flight but fail due to a low strata of wind which lacks sufficient energy. But I was Prepared. The left rear tyre of the car, you know the one, one of the two which did not need replacing because it had sufficient legal tread to see out the trip, has now got a puncture. It may help you to go back over the 'taunt in the face of the GODS' bit above. Remove tyre, find two, not just one, but two offending nails have pierced the tyre. At this stage I admitted the fact that two puncture repairs in the one tyre in such a worn condition may be overcapitalising that casing, so I opted to buy a pair of new tyres to match the brand new pair bought 3000Km ago in Adelaide. I found that tyre type, while common in SA, is only sold at one site in Perth, some 350Km distant, but I could deliver Sue and Karin to Perth Tuesday afternoon for their return flights, get the tyres, sleep the night and return by 10am on the fateful Wednesday morning.

With ample preparation we arrived at our Perth lodging at 16:30, checked the phone book to find the sole dealer of those tyres was located 40kms distant, straight through Perth city in peak hour traffic and they close at 17:15. Relegate the tyre purchase to the morning.

Wednesday get tyres, see own father for 11 minutes, wave goodbye to my family and leave Perth by 12:00. Hear the weather forecast, Kalbari to Eucla, as gale force winds North Westerly for Wednesday only then turning West-South West (read as GOOD for Wednesday Wave).

The drive to the Stirlings and Mount Barker (WA) is disturbed by a strong North Westerly wind 20 knots gusting 25 knots. Arrive at Mount Barker 16:00, too late to organise a flight, to see Lenticulars standing over the Stirlings at 30,000 feet. Commence the 2700 kms trip home on Thursday towing a trailer buffeted constantly by a 15 to 20 Knot tail cross wind (cross, I was absolutely livid.)

Had I brought a full set of tyres two weeks before the trip I would have been the only pilot to get into diamond height wave south of the Stirlings in that two weeks. But for lack of preparation !

The pleasant part of flying at the Narrogin Wave camp each October has been the Narrogin club members, one of whom sent this letter.

“Dear Gary,
This is what Bob Jane’s Tyres cost you!

Albany atmospheric sounding, 13:00hrs (local), Wed 8/Oct/97

Height	Wind Speed	Patterson’s Prediction
1000	320 15	
2000	315 34	Take a low point on Isongerup at 2000 ft
3000	315 36	Work the ridge to approx 5200 then cross at
5000	325 42	Ellen’s Peak to contact rotor/wave for rough
7000	315 52	but workable 2-4 knots at 3500 ft.
10000	315 32	Smooth at 4knots at 4500’ increasing to 6 knots
12000	305 38	by 7000’
14000	310 54	
19000	310 62	Easing to 4 knots here.
25000	315 72	Easing to 2 knots here.
31000	310 76	Easing to 1 knot here in front of lenticulars.
35000	305 74	Zero sink here.
40000	305 74	Insufficient lift to gain height here.

Winds then remain NW to 55000 but slowly easing.”

Gary Hollands

A VISIT TO GLIDING AT LOCHIEL

It was a nice day, a bit cold, I was glad I took a jacket with me - the lazy cold wind that blows up the side of The Hummocks at the Adelaide University Gliding Club airfield at Lochiel can be a bit keen.

Steve McGuiness, Arnold Kay, Craig Rasmussen and I hired RZC for the day. The flight up was uneventful; direct to Dublin then onto Lochiel. On arrival, the first hour was spent familiarising ourselves with the airstrip. There was the usual collection of hangars which are home to the gliders, then the workhorse that winches the gliders aloft - an interesting piece of machinery - an old truck with two large drums to hold the cable.

We were invited into the club house for coffee and lunch, a do-it-yourself affair of pies and pasties from the freezer, heated in a microwave, a kettle and make your own tea or coffee. There was a large collection of old photographs on the wall, one of them was that of an old pre WWII open glider flown at a site on Tapleys Hill. Looking at this photo my memory started to drift back to the time I obtained my first Gliding Certificate back in 1944 in a similar machine.

At the time I was a member of No.29 Rugby Air Training Corps Squadron in Warwickshire, England and was accepted for aircrew training in the RAF. While waiting for my call up I was privileged to do a part time gliding course at the local airstrip. I am not sure that you could call it an airstrip, it consisted of 2 or 3 farmer's fields joined together by removing the hedges. We had a couple of old cars stripped down to the bare engine and chassis and used to tow the gliders back to the take-off point. The winch used was an old wartime barrage balloon winch adapted to winch the glider up. It was a suitable machine as I recall, although extremely noisy. I could not have been very impressed at the time about flying an aircraft because I finally became a Navigator/Bombardier in the RAF. But back to Lochiel.

We all had a good day, Steve McGuinness, being a member of the club, flew solo while the other three of us had an introduction flight each which, in Craig's case turned out to be a series of interesting runs along the ridge of The Hummocks. My flight was a bit short; I was handed the controls at the top of the climb but all I seemed to want to do was put it down again. Next time I will go looking for a thermal. Just for interest I did show the Instructor my original certificate and asked him if I was still current - fifty three years since I last sat in a glider.

Arnold Kay was the last flight of the day. As I was duty pilot to fly the Cessna back to Aldinga, I was keen to get going because of last light at Aldinga. Arnold seemed to be ages, so it was a case of warming RZC up and waiting for a quick getaway. We had a pleasant flight back to base, with lots of opportunities to practice the new radio procedures entering and leaving controlled airspace. Murray was anxiously waiting for us, another ten minutes and I might have had to try my night VFR rating which, of course, is not current. There would have been another snag, I did not know the frequency to turn the runway lighting on.

As a matter of interest, there is no simulated engine failure on take-off at Lochiel. The winch cable broke three times that day and, of course, each landing was an actual forced landing.

Happy days! *Doug Guy*

Thanks Doug for your article - all three pilots thoroughly enjoyed their day at Lochiel, and expressed a genuine desire to return. With more Uni Club members seemingly getting their powered licences, this is an opportune moment for me to get a plug in for Aldinga, which is often overlooked in the shadow of big brother Parafield. It is located in the middle of one of the most scenic areas of the state - rolling hills, lakes, vineyards, Goolwa, KI, etc. - whilst the operator, South Coast Air Centre, is a far more laid back, friendly sort of operation than the strict commercial world of Parafield.

It's also home to the Aldinga Aero Club, a small group of enthusiasts open to anyone with an interest in aviation. It holds a flying event one Sunday a month, in the form of a simple and fun competition. Previous events have included spot landings, hunting for a locator beacon hidden away in the hills, and attempting to have the landing gear touch, but not break, a string fence held across the runway by two people (try doing THAT at Parafield!). It also holds other events throughout the year, such as trips to the Adelaide Control Tower; in November five aircraft are flying down to Naracoorte for the weekend, having been challenged to a comp by the local Aero Club.

Whilst actually competing in the monthly comps is only available to members (\$40/year), any spare seats are available to passengers free of charge, so for something different one Sunday why not come along? Give me a call (8381 7907 - hm, 8203 6528 - wk) beforehand though to confirm it's on. Not that I'm trying to coax people away from the Uni Club; just the opposite! I feel there is already too much unnecessary delineation in sport aviation, to its overall detriment. As the emphasis these days is shifting towards keeping the members we have, rather than engaging in largely fruitless attempts to

attract new ones, surely one of the ways to do this is by providing new stimulation - cross pollination between various types of clubs. Most of us will need to specialise in a particular area, but that doesn't mean we shouldn't grab the opportunity to experience and learn from different aspects of aviation now and then. Now, to get Anthony to arrange a flight in that F/A-18..(not likely I'll take every flight I can get! Anthony)

Steve McGuinness

DESIGNING A GLIDER: PART 3

This is the third in a series of articles to give club members an insight into the aircraft design process and which should culminate in the complete detailed design of a glider. This article I will have a look at the glider's performance estimation and flight envelope.

Last month outlined the educated first guess of the weight of the aircraft and looked at the airworthiness requirements which will affect the design of the glider. So far we have an aircraft which weighs 490 kg, with a 65 hp engine, a 14 m wing span and a wing area of 11.67 square meters. From this we can see that the wing will have an average chord of 0.833 m and an aspect ratio of 16.8. If we put the wing tip extensions on, the wing area increases to 13.68 square meters, the average chord is 0.805 m and the aspect ratio is increased to 21.1.

From these basic dimensions, we can roughly estimate the gliders performance. The equations are very mathematical and I have not included them here, however I will list some of my assumptions. I assumed a friction co-efficient (sort of a combination of streamlining and surface smoothness) of 0.0035 (typically a fibreglass glider would be 0.0030 or lower). I also assumed the 14 m wing to only have an efficiency of 0.85 whereas the 17m wing has 0.90 (in theory we should be able to achieve 0.9 and 0.95 respectively). Finally, I assumed the engine and folding prop to have a co-efficient of drag of 0.004 (this is the amount of drag added by the prop on the Motorfalke, but the TOP pack (an add-on engine similar to what Redmond wants) manufacturers claim a co-efficient of drag of around 0.0015).

For the glider with 14 m wings and the engine installed we get:

Stall Speed: 39.7 kts
 Min Sink Speed: 43.3 kts (1.84 kts sink)
 Best Glide Speed: 56.9 kts (27.2 to 1)

For the glider with 14 m wings and the engine removed we get:

Stall Speed: 35.6 kts
 Min Sink Speed: 41.9 kts (1.53 kts sink)
 Best Glide Speed: 55.2 kts (31.6 to 1)

For the glider with 17 m wings and the engine installed we get:

Stall Speed: 36.6 kts
 Min Sink Speed: 38.1 kts (1.42 kts sink)
 Best Glide Speed: 50.2 kts (31.1 to 1)

For the glider with 17 m wings and the engine removed we get:

Stall Speed: 32.9 kts
 Min Sink Speed: 37.1 kts (1.17 kts sink)
 Best Glide Speed: 48.8 kts (36.4 to 1)

We can see so far that everything is within the specification in Part 1 of this series. The only potential problem is the minimum sink speed is very close to the stall speed which will make the aircraft difficult to thermal effectively. While I have assumed conservative co-efficients, the minimum sink speed can be increased by paying particular attention to streamlining and reducing the form drag of the glider.

AT WEST BEACH DURING THE HOLIDAYS

The club has an inspection facility at the University Sports Grounds at West Beach where we carry out the annual inspections. Generally there are people down there on Monday and Tuesday evenings working on the gliders and the new winch. Here is a summary of what should be happening in December and January:

Puchatek: The Puchatek form 2 and airbrake repair is very nearly finished. This should make a re-appearance at Lochiel around Saturday 13 Dec.

Club Libelle: The form 2 has been finished and it is going to compete in the Renmark Regatta. It too should make a re-appearance at Lochiel around Saturday 13 Dec. It has had a brand new radio and possibly a boom microphone.

Super Arrow: Yes, poor old TJ is up for sale, but it needs a form 2 inspection done on it as well. It needs a clean up to make it look nice for any prospective buyers. This will be in the shed once the Club Libelle is back at Lochiel.

Bocian: The Bocian is at the back of the shed on the bottom of the priority list. More rebuilding should be done once the Puchatek is back at Lochiel.

Winch #3: This is being very slowly built in fits and starts. Part of the back wall of the cab needs to be cut away to fit the drive shaft to the transfer box. Talk to David Conway if you want to help on building 'Thunderbird 3'.

During these holidays the club is also considering

running a Daily Inspection course and possibly a Wood Repair course (especially once work on the Bocian starts up again). If you have recently gone solo, or are about to, then you should talk to Redmond Quinn about getting your Daily Inspection rating, especially since he is at West beach almost every Monday night. That way you will be able to get out an aircraft and fly it without having to ask someone to DI it for you. If you are interested in doing a wood repair course, you should also talk to Redmond. Since a lot of our aircraft are wooden, these skills are great to have.

FIRE SEASON

During the Fire Danger Season fire restrictions apply throughout the whole State including metropolitan Adelaide. When this happens, you must apply for a permit to use fire outdoors at any time, except for barbeques, campfires and incinerators. Any fire must be contained in a barbeque/cooker or a properly constructed fireplace (ie 30 cm deep, not more than 1 m square in area and cleared for 4 meters around and above it). While it is alight you must have someone stay with it and have sufficient water to be able to put it out (the fire trailer does nicely).

On days where weather conditions could cause fires to become uncontrollable, Total Fire Bans may be declared. On a Total Fire Ban day you can only operate electric or gas barbeques/stoves within 15m of a dwelling or on a coastal foreshore. A responsible person must be with it at all times and have sufficient water to put it out.

SO YOU WANT TO HELP AT WEST BEACH?

- Do you want to help fix the gliders at West Beach, but can't get there?
- You can ring the club contact person, Anthony, on 018 810 963 or (08) 8393 2646, E-mail: Anthony.smith@adelaide.on.net. He can organise a lift for those who need it. If you are **truly desperate**, his work phone and work e-mail are : (08) 8393 2897 and acsmith@raaf.defence.gov.au
- A lift is available from the Adelaide University footbridge at 7.30 pm Mondays and Tuesdays.

WHAT'S ON DURING DECEMBER AND JANUARY!

Renmark Regatta, Sat/Sun 6/7 Dec 97

Try out competition flying and book a seat in an aircraft for the Renmark Regatta. Call the contact to arrange an aircraft and travel / accomodation details.

Christmas BBQ, Friday 12 Dec 97

7:00 pm at David and Cathy Conway's.
1 Cuming St, Mile End.

Come along to the Conway's for our annual Christmas bash. Meet Peter, their newest son, and say 'Goo goo gah' to him. There will be some bottles of wine given out from various competitions through the year. Bring some meat for the barbie, something to drink and a friend as well.

Executive Meeting, Tues 16 Dec 97

7:30 pm at Raj's place
8 John St, South Plympton

Everyone welcome to have a say in what happens in the club. If you have any ideas to improve the club, they would be greatly appreciated

Weekday Gliding

Because it is the holiday season it may be possible to arrange gliding during the week days if enough people and an instructor are interested. Typically there is flying on the week between Christmas Day and New Years Day. Call or e-mail the contact person and let him/her know when you are interested and we will see what can be organised.

Adelaide Uni Regatta, Sat/Sun 28 Feb/1 Mar 98

Try out competition cross country flying and book a seat in an aircraft for our very own regatta. Call

the contact to arrange an aircraft and travel / accomodation details.

Early Cross Country Flying

Looks like a good weekend for a cross country but not sure how? Peter Temple is willing to escort people around a cross country. He will fly PN and you fly TJ or MI. Call the contact person to arrange a day.

SKYDIVING!

Ever wonder what it would be like to jump out of an airplane and use a parachute? Worn a parachute in a glider and not sure how to use one? Well here is an opportunity to have a go at skydiving these holidays at Lower Light.

I am arranging a group for an accelerated free fall course. While there is not a fixed date set yet, January would be an excellent time to do it. The course starts with 8 hours of ground training (either in Adelaide or at Lower Light) and then a jump from 12,000' with two jump masters. This costs \$370. Further training is as follows:

Stages 2 and 3: Further jump practice with two jump masters, cost \$180.

Stages 4 to 8: Further jump practice with only one jump master, cost \$145.

Stage 9: Your first solo jump, cost \$45.

There are discounts for group bookings, so give me a call if you are interested. *Anthony*

SO YOU WANT TO GO FLYING THIS WEEKEND?

→ You must ring the club contact person, Anthony, on the Thursday before, between 8.00 pm and 9.30 pm, on 018 810 963 or (08) 8393 2646, E-mail: Anthony.smith@adelaide.on.net, so that he can organise instructors and transport for those intending to fly. If you are **truly desperate** (ie its Friday and you forgot to ring, his work phone is : (08) 8393 2897.

→ A lift to Lochiel is available from the Adelaide University footbridge at 7.00 am, or from the Caltex Service station on Port Wakefield road, Bolivar at 7.30 am

→ **Remember to phone the contact person or you could be forgotten.....**

AUGC: What's on December?

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1 7:45 pm West Beach Shed Puchatek Form 2 Bocian repair Winch #3	2	3	4 Call Contact Person 018 810 963	5	6 Renmark Regatta Try out competition flying. Go gliding...	7 Renmark Regatta Try out competition flying. Go gliding...
8 7:45 pm West Beach Shed Puchatek Form 2 Bocian repair Winch #3	9	10	11 Call Contact Person 018 810 963	12 7:00pm Christmas Party at David and Cathy Conway's. 1 Cumming St, Mile End.	13 Go gliding...	14 Go gliding...
15 7:45 pm West Beach Shed Super Arrow Form 2 Bocian repair Winch#3	16 Executive Meeting. 7:30 pm at Raj's 8 John St South Plympton All welcome!	17	18 Call Contact Person 018 810 963	19	20 Go gliding...	21 Go gliding...
22 7:45 pm West Beach Shed Super Arrow Form 2 Bocian repair Winch #3	23	24	25 Call Contact Person 018 810 963	26 Go gliding...	27 Go gliding...	28 Go gliding...
29 Go gliding...	30 Go gliding...	31 Go gliding...	1 Call Contact Person 018 810 963 Go gliding...	2 Go gliding...	3 Go gliding...	4 Go gliding...

AUGC: What's on January?

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
29 Go gliding...	30 Go gliding...	31 Go gliding...	1 Call Contact Person 018 810 963 Go gliding...	2 Go gliding...	3 Go gliding...	4 Go gliding...
5 7:45 pm West Beach Shed Super Arrow Form 2 Bocian repair Winch #3	6	7	8 Call Contact Person 018 810 963	9	10 Go gliding...	11 Go gliding...
12 7:45 pm West Beach Shed Super Arrow Form2 Bocian repair Winch#3	13	14	15 Call Contact Person 018 810 963	16	17 Go gliding...	18 Go gliding...
19 7:45 pm West Beach Shed Super Arrow Form 2 Bocian repair Winch #3	20	21	22 Call Contact Person 018 810 963	23	24 Go gliding...	25 Go gliding...
26 Go Gliding...	27 7:45 pm West Beach Shed Super Arrow Form 2 Bocian repair Winch #3	28	29 Call Contact Person 018 810 963	30	31 Go gliding...	1 Go gliding...

THIS MONTH ON FIELD

Wed 29 Oct: General meeting discussing improving your flying especially cross country. The special guest lecturer was none other than the National Performance Coach, Maurie Bradney. Excellent evening with a lot learnt. Just in time for the thermal season too!

Sat 1 Nov: A great day was had by all. There were thermals to 4500' and ridge all day long. Eight people and four aircraft meant everybody had a lot of flying. Jed, the local cropduster pilot, went solo after his second day on field and was doing ridge beat-ups on his second solo!
Flights: 19 Total Time: 21 hr 29 min

Sun 2 Nov: No flying.

Sat 8 Nov: Circuits with a couple of thermals. Most of the day was spent building the new hangar and now most of the framework is up. We also tried to fit the new instrument panel into the front of the Bergfalke.

Flights: 18 Total Time: 2 hr 11 min

Sun 9 Nov: Originally cancelled, Claire got desperate and sweet talked Peter Cassidy into running a day (well done Claire!). It was overcast, then hot and sticky with only a little bit of rising air. They held a landing competition which Clair won.

Flights: 14 Total Time: 1 hr 20 min

Tues 14 Oct: Executive Meeting at Angus MacGillivray's place. See page 5 for details.

Sat 15 Nov: Supposedly the Black Tie day, Andrew Huggins dropped in to say hello and ran the day. Congratulations to Angus for converting to TJ and to Steve McGuinness for converting to CY. Meanwhile, Mandy and I started our instructor training at Gawler.

Flights: 22 Total Time: 8 hr 5 min

Sun 16 Oct: Only three people on field. Fiona, Claire and Jeff got drunk the night before and stayed over. Unfortunately, Micheal Texler decided it wasn't worth flying that day and it was cancelled. Meanwhile, Mandy and I continued our instructor training at Gawler and Mandy demonstrated how not to land the Janus.

Sat 22 Nov: Hangar building and general clean up day. Incredibly hot day but too windy to fly. Redmond, Matthew Nicholls and myself had a working day and cleaned up around the place.

Flights: 18 Total Time: 6 hr 38 min.

Sun 23 Nov: No flying.

Sat 29 Nov: No flying.

Sun 30 Nov: A good day with thermals to 5500' for most of it. 11 people on field enjoyed a bbq lunch. Congratulations to Claire, Matthias and Andrew McCauley for converting to the Arrow.

Flights: 30 Total Time: 9 hr 20 min.

Uni Gliding

If undelivered please return to:
AUGC Inc.
c/o Sports Association
Adelaide University, SA 5005

