

# Uni Gliding

The Official Journal of the Adelaide University Gliding Club



*Khancoban Montage: Top left- Redmond landing WVA at Khancoban. Photo: J Switala. Top right- ZQ on take off roll. Photo: Justine. Lower left- Khancoban scenery. Photo: Justine. Lower right- After a hard day's flying. Photo: Justine*

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### STOP PRESS

The Puchatek is scheduled to return to AUGC on Friday 21st December!

### QUOTE OF THE MONTH

“Don't insert genitals here.” Mark Newton on the bizarre shape of a Conway carbon fiber creation .

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**EDITORIAL**

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Hi everyone,

Welcome to the summer newsletter. This newsletter is again slightly later than anticipated. This was mostly due to me being very busy with work, as well as other contributors being very busy and having to delay getting their reports / contributions to me. Anyway I have put some summer holiday reading in this issue with the first part of a series on aerobatics and an article about a new ultralight glider.

As hinted in the interim November newsletter, the Khancoban trip by **David C, Redmond, Justine** and myself was reasonably successful. Whilst the weather was not as great as the previous year, this year's trip featured a significant reduction in the amount of carnage caused by **Redmond**. One flying day was lost due to low cloud and rain, which fortunately cleared to allow us to dry off the aircraft and de-rig them. On the more positive side, the 'light switch story' has now escaped the bounds of the AUGC and has become legend at GCV. **David C** actually had a somewhat uncomfortable weekend as 'her name' kept on cropping up on a regular basis. It was only under dire threats of instant mutilation followed by violent death that Nicole (the light switch girl) was never again mentioned (at least till the trip was over). All in all it was a good trip and serves as a good example of the unfeasibly long distances some people will tow a huge trailer based on a hopeful expectation of great flying.



The airstrip at Khancoban: Photo by Justine.

Whilst on the subject of towing gliders to and from distant parts of the country, a big thank you goes to **Scott Lewis** for towing the Twin Astir back to Whyalla. A pre-emptive, but even bigger thank you goes to **Mark Newton** and company who are planning on towing the Puchatek back from Sydney in the very near future.

The thirty yearly has been completed on ZM and it has returned to Lochiel. A big thanks goes to **Redmond** and everyone else who helped out over the last couple of months to get it back into the air. With the imminent arrival of the Puchatek, it will see the club back up to full two seater strength, just in time for the summer soaring season (all we need now are some more instructors for the back seats....).

There are no further General Meetings till we have the post O'Week introduction night sometime in early March next year. In the mean time we still have social events and we still need to finish of the Strategic Planning effort and I am sure there will be a very lively executive meeting in the near future to discuss the club flying rates.

*Anthony*

Editor

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**DO YOU WANT TO IMPROVE THE NEWSLETTER?**

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Got a good idea on how to improve the newsletter? Well, let me know on what you want to see in here and I will try to make it happen.

Improvements this month: There was a bit of discussion again on the file name of the electronic copy. The existing name may make the e-mailed link too long. However, I am sure that we are all intelligent people and we have book marked the newsletters page of the club web-site haven't we.....

## DECEMBER



*If you haven't been at Lochiel lately, here is what you may have missed. Photo by M Manka.*

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
<b>3</b> WVA repairs West Beach Shed 7:45 pm	<b>4</b> WVA repairs West Beach Shed 7:45 pm	<b>5</b> WVA repairs West Beach Shed 7:45 pm	<b>6</b>	<b>7</b>	<b>8</b> <i>Go gliding</i>	<b>9</b> <i>Go gliding</i>
<b>10</b> WVA repairs West Beach Shed 7:45 pm	<b>11</b> WVA repairs West Beach Shed 7:45 pm	<b>12</b> WVA repairs West Beach Shed 7:45 pm	<b>13</b>	<b>14</b>	<b>15</b> <i>Go gliding</i>	<b>16</b> <i>Go gliding</i>
<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b> Xmas Party: 7:00 pm. 37 Maple Ave, Rostrevor	<b>22</b> <i>Go gliding</i>	<b>23</b> <i>Go gliding</i>
<b>24</b>	<b>25</b> Christmas Day	<b>26</b> Boxing Day <i>Go gliding</i>	<b>27</b> Flying Camp Lochiel <i>Go gliding</i>	<b>28</b> Flying Camp Lochiel <i>Go gliding</i>	<b>29</b> <i>Go gliding</i>	<b>30</b> <i>Go gliding</i>
<b>31</b> Flying Camp Lochiel <i>Go gliding</i>	<b>1</b> New Years Day <i>Go gliding</i>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b> <i>Go gliding</i>	<b>6</b> <i>Go gliding</i>

## CLUB ANNUAL DINNER



Above: The dinner table featuring me, Justine, Michael T, Cathy S, Derek, David H, Claire, Mark and Genaya's head.

Below: Matt L receiving the Ray Duncan Award from Cathy C. Both photos by David C.



The club held its annual dinner and awards night recently. It was very well attended and everyone enjoyed themselves. The evening even included a surprise appearance by David Hichens who had only just returned that day from a couple of months in the USA. The awards were presented as follows:

**The Ray Duncan Award** (for the most improved pilots): Matt Learmonth and Brett Collier

**The Harley Trophy** (the most meritorious cross country): David 'I made it back!' Conway

**The Wheels Up Award** (the biggest stuff up): Anthony 'Tree? What tree?' Smith

**The Viagra or 'I can't keep it up!' Award** (the least meritorious cross country): David 'She Oak Log' Conway

**The Wild Life Award:** *I actually can't remember who received this and Cathy C (who didn't write a Prez report) is flying at Waikerie and won't answer her phone and it is knock off time on Friday afternoon and I want to finish this newsletter and print it so I can go home. If you received the award, please confess to it now! Ed.*

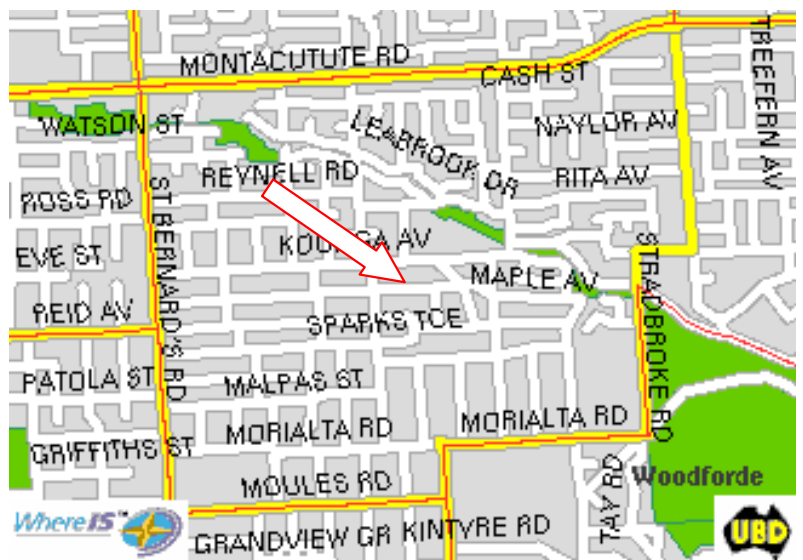
**The Winch Engineer Trophy** (for the most work done to keep the winch going): Scott 'It's gotta be chrome!' Lewis

## CLUB CHRISTMAS PARTY

The AUGC Christmas BBQ Party is being held on [Friday 21st December](#) at **Dirk Seret's** residence:

**7 Maple Ave,  
Rostrevor. Ph 8336 1224**

Bring your own alcoholic drinks, meat and a salad bowl or a desert. Dirk has a pool, so bring you swimmers along (or risk being thrown in anyway). We will also have a competition to see how many people we can fit into his shower (*we proved last year you can fit Sonya, Claire, Scott and Derek into my parents shower! Ed*)



## AEROBATICS 1: THE LOOP

This is the first part in a series of articles on aerobatics for gliders. Each month will feature a new maneuver (*this will keep the newsletter full of something interesting for a while*). It will be largely based on 'The handbook of glider aerobatics' by Peter Mallinson and Mike Woollard. This book is aimed at training to become a competition aerobatic pilot and leans towards highly precise maneuvers.

Aerobatics are a lot of fun, but can rapidly get you into trouble if you stuff them up. So care must be taken to ensure you aerobat safely. Take the time to have a go with an instructor first before venturing into unknown corners of the flight envelope.

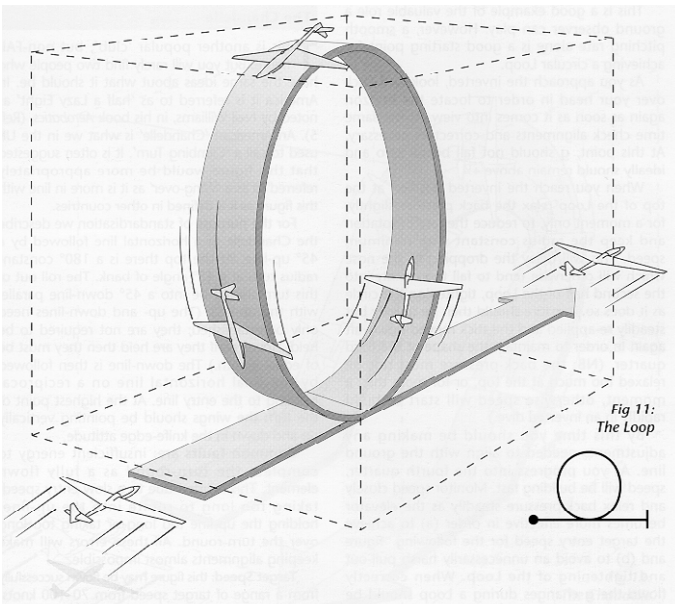
A loop is one of the most popular aerobatic 'stunts', probably because of its relative simplicity. However it can be quite difficult to get perfectly right. Quite simply a loop should be a horizontal line followed by a constant radius circle in the vertical plane followed by a horizontal exit line.

**Common Faults:** Not keeping the wings level, losing too much speed at the top and either falling out of the loop or dropping a wing, over tightening the loop as you come out and exiting off-line. For the aerobatic purists who want to do a perfectly circular loop, flying a loop downwind will produce a loop that appears to be 'thorn shaped' or very pointy at the top when viewed from the ground.

It is important to start a loop with the wings level and with no yaw. This should be checked at five points (*I normally only use three: Ed*):

- At the start
- Before the horizon disappears below the nose whilst pitching up
- At the top
- On the way down
- After the exit

**Target Speed** is usually a minimum of 2.5 times the stall speed. Pull back to achieve a minimum of **3g** in the first quarter of the loop. In the second quarter, as speed decays and the effectiveness of the elevator reduces, progressively ease back on the stick to maintain a constant loop radius (note that the g and stick load will be steadily reducing). In order to do a perfectly circular loop, you may need an observer on the ground to provide feedback on the pitching rate.



As you approach the inverted, look well back over your head in order to locate the horizon again. At the same time check for wings level and no yaw. At this point, g should not fall below 0 and ideally should remain above 1/4.

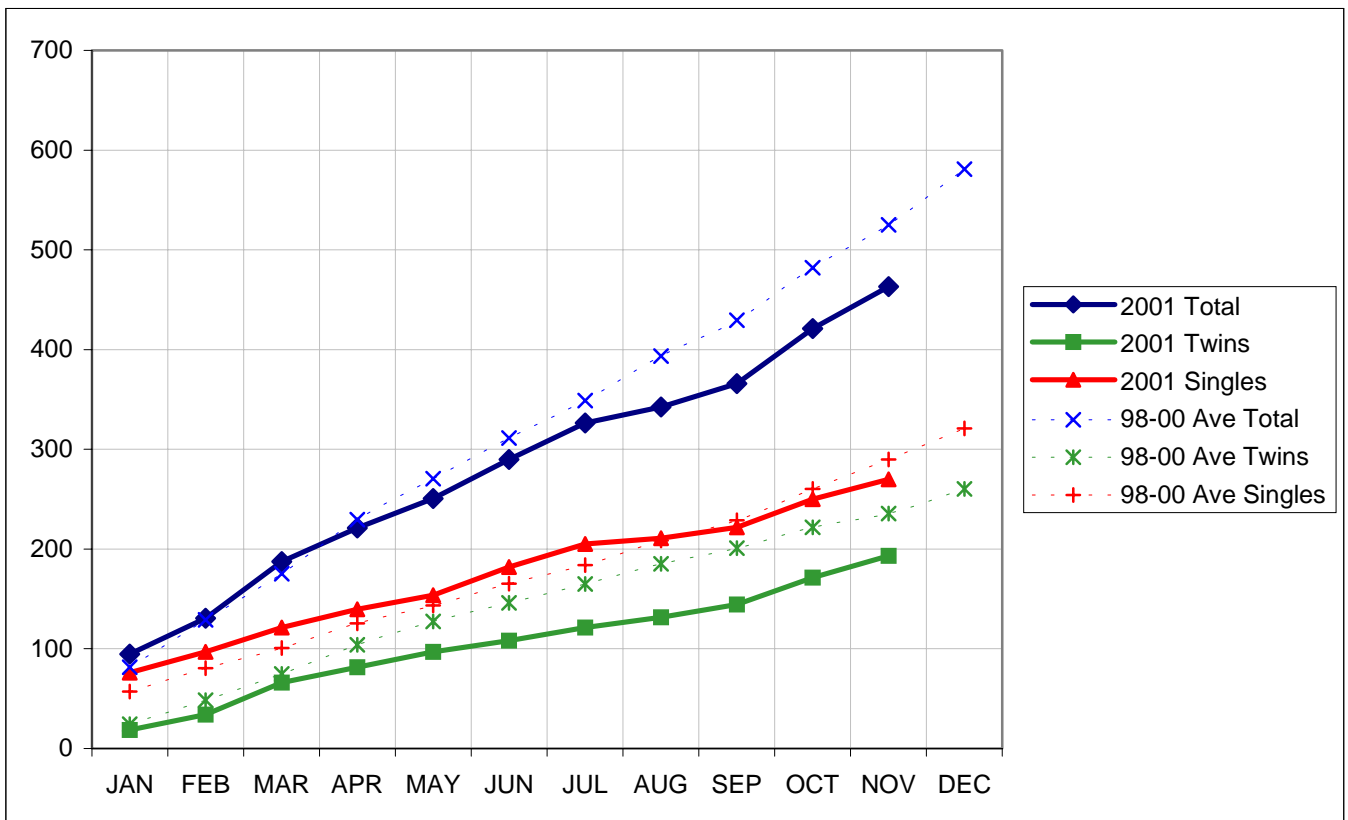
When you reach the inverted position at the top of the loop, relax the back pressure on the stick slightly, for a brief moment, to reduce the rate of rotation. This helps to keep the loop radius constant at the low airspeed. Pressure should then be quickly but steadily re-applied and the stick moved aft again in order to maintain the shape of the third quarter (note that relaxing too much at the top of the loop will result in the speed increasing rapidly in the dive out of the loop).

As you progress into the fourth quarter, speed will be building fast. Monitor the speed closely and relax the back pressure on the stick steadily as the elevator becomes more effective. This is in order to achieve the entry speed for the next maneuver and avoid overstressing the aircraft above the max maneuvering speed. When correctly flown, the g changes during the loop should be smooth and flowing.

A key feature of the loop is the achievement of a constant radius to give it a perfectly circular shape. This involves applying the correct amount of elevator deflection as the airspeed changes. Essentially the pitch rate needs to be proportional to the airspeed - high airspeed, high pitch rate - low airspeed, low pitch rate.

You will know that you have finally done the perfect loop on the day that you feel a little bump on the way out of the loop as you fly through the wingtip vortices that you created as you started the loop.

## AUGC PERFORMANCE IN 2001



For some time I have been looking at ways of measuring the success of the club each year. There are many ways, including:

- The average number of people flying each day,
- The number of solos each year,
- The number of hours flown each year.
- The financial state of the club each year.
- Or perhaps a combination of some of the above, like the average amount of flying each club member does each year.

At the moment the easiest way is to look at the hours flown each month. Above is a chart comparing the cumulative hours each month for this year with the average over the last three years. Whilst it appears that the club is having an average year this year, it must be remembered that one of the biggest factors in the amount of flying we do is the weather, which we can't do anything about.

## A NEW ULTRALIGHT GLIDER

Probably the biggest development area in gliding at the moment is ultralight gliders. These are effectively a new class of aircraft characterised by their extreme light weight and small size. Because of new materials and manufacturing techniques, this type of aircraft is now readily easy to build. Because they are relatively new with several new designs being rapidly developed, there has been an explosion of new world records being set for this class of aircraft.



Windward Performance is designing and building a high performance ultralight (FAR Part 103 legal) sailplane called the *SparrowHawk*. It is completely manufactured from oven cured carbon epoxy prepreg and will be finished in polyurethane. The manufacturers promise it to be a quick and nimble aircraft with a very low sink rate.

In reality this aircraft appears to be a carbon fiber Arrow, so I have compared the factory specs of the Sparrow Hawk to our ES59 Arrow to see how the technology has improved in the last 40 years.

Empty weight: 77 kg for classification as an FAR 103 ultralight (*Arrow is 190 kg*)

Gross weight: 205 kg (*Arrow is 280 kg*)

Wing Span: 11 m (*Arrow is 12.8 m*)

Wing Area: 6.5 m<sup>2</sup> (*Arrow is 10.2 m<sup>2</sup>*)

Length: 6.28 m (*Arrow is 6.5 m*)

Aspect Ratio: 18.6 (*Arrow is 16.0*)

Maneuvering and Rough Air Speed: 80 kts (*Arrow is 73 kts*)

VNE: 123 kts (*Arrow is 128 kts*)

Stall Speed: 32 kts (*Arrow is 32 kts*)

At 160 kg the minimum sink rate is 1.2 kts at 39 kts (*Arrow is 1.6 kts at 39 kts*)

Max L/D of 32:1 at 45 kts (*Arrow is 26:1 at 44 kts*)



The Sparrow Hawk should be readily easy to rig as the wings only weigh 20 kg each. The fuselage weighs in at an impressive 34 kg as demonstrated in the photo on the left.

At present, Windward Performance are offering pre-orders at US\$25,000 (which is around AUS\$50,000 at present), plus whatever it would cost to ship it over etc.

For more information, check out:

[www.windward-performance.com](http://www.windward-performance.com)

## FROM THE INSTRUCTORS PANEL

Congratulations to **Dirk Seret** who went solo in the Twin Astir recently and also to **David Hichens** and **Mark Newton** who now have their AEF ratings. **Matt Learmonth** has also gained his aerotow rating at Waikerie. The other trainees are progressing well and we can expect some new solo pilots early in the new year.

When summer eventually arrives we can expect some good soaring and cross country flights. Don't forget to keep your fluid input up and use plenty of sunscreen and a hat.

Thanks to **Simon Hackett** who brought his Motorfalke up to Lochiel so we could do some out landing training with **Matt Learmonth** and **Brett Collier**.

### CFI'S TIP OF THE MONTH -WINCH LAUNCHES

Still occasionally I come across someone paranoid about letting the airspeed get close to, let alone past the placarded maximum winch speed without pulling the release.

This is not necessary. During the first third of the launch it is quite acceptable to be up to 10% over the placarded maximum winch speed, i.e. 6 - 8 knots over depending on the glider. Pulling the release early cause more problems (and nuisance value) than proceeding with the launch and getting the airspeed back under control.

The other problem is that if the initial part of the launch is too fast, the pilot is often too busy signalling and he fails to get the nose up and get some load on the winch, which will reduce the airspeed. When the pilot does eventually begin to pull up into the climb attitude (at the cross strips by now), the winch has reduced power so far that the airspeed washes away and a too slow signal is then required. This is a good way to get into the non-manoeuving area as you are a fair way down the runway and haven't gained a lot of height.

If you have excess speed, even if you are a few knots past the maximum winch speed, **during the first third of the launch** you have to get the nose up to the climb attitude.

Let the speed stabilise - it should come back pretty promptly - and then address the situation. Signal as required.

At the top of the launch you must lower the nose to unload the cable prior to pulling the release twice; not so much an issue at our club but at other clubs using solid wire and a drogue parachute, you will be thoroughly castigated if you release the cable under tension. Get into the habit now! It's also less disconcerting for you passengers.

Safe Flying and a Merry Christmas & New Year

*David Conway*

Chief Flying Instructor



## TREASURER'S SAVINGS

As of 27/11 the Club has approximately \$ 2,000 in its account with the National Australia Bank. This is not sufficient for our operations and considering I have over \$ 3,000 of forward expenditure on fuel, interest payments etc. it indicates that unless we have some significant amount of payment from members for flying we will have what is colloquially known as a 'liquidity problem'.

Therefore please note that if you don't clear it through me, any purchases you make for the Club may take a little longer than usual to be reimbursed. Also CALL ME before you make any purchases that are made on a Club credit account we have with any of our suppliers. Don't expect anything other than urgent materiel to be approved for the time being. The situation generally improves in March when we gain access to our grant monies and we have membership fees roll in - unfortunately we also have a \$ 4,000 insurance payment at that time as well.

Unfortunately, the lack of cash has also eaten into the new aircraft reserve that we had been building up - this will be replenished as funds become available - so if you want to see a shiny new bird on field - fly more and pay more!

Whilst we're on the subject of insurance - a \$10,000+ per year pain in the bank balance - please consider that when an aircraft is damaged, our insurance is subject to a \$500 - \$750 excess (depending on the aircraft). That means we have to pay that amount ourselves, on top of the insurance premiums. For the KRO, where we had to hire another aircraft to replace it, we are out of pocket \$1500 for the hire and excess costs, and that doesn't include the rise in insurance premiums next year because of a major claim! That's \$1500 we do not have to spend on the Clubhouse extension or aircraft instruments or a new pie cart. In short if you damage an aircraft you can not only expect a major chew out from the CFI but one from me as well! So DON'T DO IT. Also note that the Arrow is NOT INSURED for hull damage in the air (ie we cover that risk ourselves due to the low cost of the aircraft) so damage that badly and its gone for good.

Unfortunately we have been advised that our grant for next year has been substantially reduced (read slashed) but at this time no-one can tell me what the likely figure is - other than we won't like it, so expect a lean year in 2002 and a review of flying and other fees by the Executive Committee.

And a gentle reminder ... before you buy ANYTHING for the Club:

1. Check the purchase has been approved by an Exec member (preferably me).

THEN

2. Buy the item and get a TAX INVOICE, that's a TAX INVOICE (yes its important). Credit card vouchers are NOT tax invoices and cannot be used to claim money back from grants so don't send them to me.
3. On your **tax invoice** receipt write **clearly** (a) your full name and (b) why the thing you bought was bought. E.g. "*Fred Bloggs*" & "*Fuel for winch*" is good. "*Dave*" and *<indecipherable scrawl>* is not.
4. Attach this receipt to the flight sheet and wait 4 years for the flight sheets to get to me whereupon I will credit your account OR post the thing to me direct and I will credit your account. All credits are subject to Exec meeting approval.

And lastly - next time you fill the winch check the fuel level in the bunker. When it's low tell me or write it on the flight sheet! When I filled the winch the other weekend the bunker was empty and the lead time for getting fuel can be as much as 4 weeks. That's a long time to be hauling fuel from Pt. Wakefield in jerry cans.

*Dennis Medlow*  
Treasurer AUGC

## FIRE, FIRE, FIRE!

With the fire restriction season now upon us it is important that everyone knows how to use the club's fire trailer. The fire trailer should (by now) be filled full of water and parked in front of the clubhouse. It should be left there until the end of the fire restriction season.

The fire trailer should be inspected and started every morning before operations. This is a good opportunity for everyone to learn how to start and operate the pump motor and the hoses. There are instructions on how to start the pump motor on the fire trailer. The hose nozzle can be twisted to control the water flow / spray pattern similar to a common garden hose.

It should be towed out to the launch point along with the aircraft and it should remain attached to a car (preferably a four wheel drive) at all times (and please leave the keys in the vehicle....). That way the fire trailer will be available for **immediate** use if needed.... and the fire trailer has been needed in the past.

There have been two recent times when the fire trailer could have been used to fight a real fire. One was a local crop fire a few paddocks away, but the car towing the trailer got bogged in a paddock en-route (it was eventually un-bogged by the local CFS after they had put out the fire). The second time was when a cable break dropped across the power lines next to the airfield and set fire to the airfield paddock.

**It is up to everyone to ensure that they know how to use the fire trailer. If you don't know how, ask someone and find out!**

## SAVE WATER!

Well it is summer again and that means bugger all rain till early March. The end result is that we need to conserve the rainwater in the large rainwater tank behind the new hangar. Why? Because it is our drinking water in the clubhouse!

As such, don't waste the clubhouse water by having long showers or leaving the taps running unnecessarily.

The tap outside the new hangar is also connected to the rainwater tank and is for washing gliders only. Do not fill the fire trailer from this tap.

The taps outside of the clubhouse still run off the mains supply and can be used to do whatever you like.

## CONTACT LIST

President:	Cathy Conway	8443 7535	conway@agile.com.au
Treasurer:	Dennis Medlow	8337 3265	dmedlow@adelaide.on.net
Secretary:	Derek Spencer	8322 6626	derek.spencer.geac.com.au
Social Convener:	David Hichens	8342 2956	dhichens@baea.com.au
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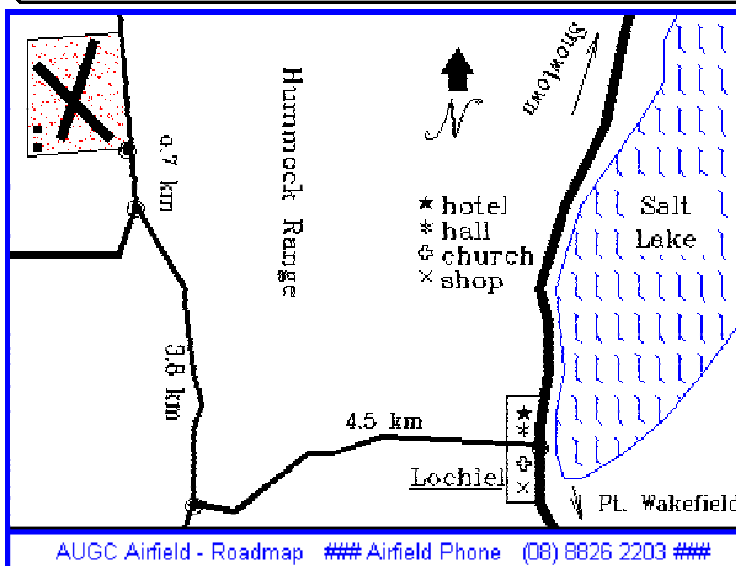
## STAY IN TOUCH

The club has an e-mail group address, [augc-people@lists.internode.on.net](mailto:augc-people@lists.internode.on.net), that is used to either discuss or arrange things within the club. If you want to stay in touch with the club, send a blank e-mail to [augc-people-request@lists.internode.on.net](mailto:augc-people-request@lists.internode.on.net) and it will send an automatic reply with instructions on how to join the group list. You can still send an e-mail to the list even if you have not subscribed to it.

You can also get the latest newsletter and up to date news on what is going on at the club's web page: <http://www.augc.aus-soaring.on.net/>

If your e-mail address is on the membership database, Dennis the club's highly esteemed Treasurer can send you your account updates over the internet, as well as receipts for payments. Send an e-mail to: [dmedlow@adelaide.on.net](mailto:dmedlow@adelaide.on.net)

## SO YOU WANT TO FLY THIS WEEKEND?



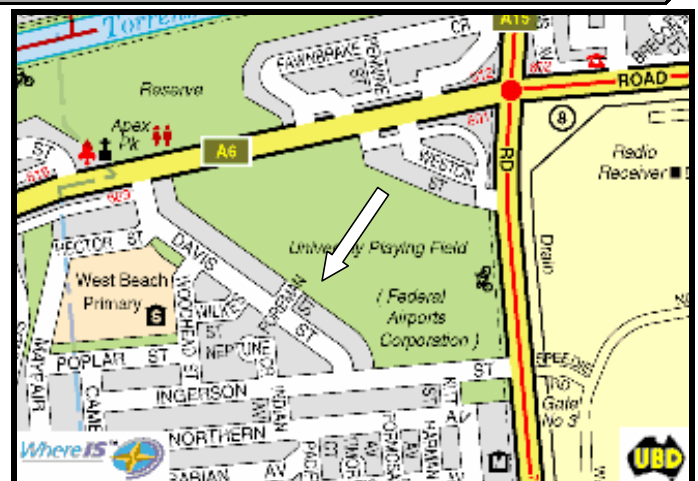
You want to go flying on the weekend? You must ring the club contact person, Scott, on the Thursday before, between 8.00pm and 10:00 pm, on 0412 870 963, (or by e-mail before) so that he can organise instructors and transport for those intending to fly.

You can either drive up yourself by following the map at left, or Scott can arrange a lift to Lochiel either from the Adelaide University footbridge (meet at 7.15am to leave at 7:30 am), or from the Caltex Service station on Port Wakefield road, Bolivar (meet at 7.45am to leave at 8:00 am)

## SO YOU WANT TO HELP AT WEST BEACH?

West Beach is where we carry out the maintenance and repair on our gliders and equipment. There are usually volunteers working down there on Monday, Tuesday and Wednesday evenings. The entrance is at the end of Foreman St, West Beach.

So you want to help fix the gliders at West Beach, but can't get there? A lift can be available from the Adelaide University footbridge at 7.30pm by arrangement. Ring Anthony on (wk) 8393 3319, (hm) 8269 2687 or E-mail: [Anthony.smith@adelaide.on.net](mailto:Anthony.smith@adelaide.on.net).



## WHAT IS GOING TO HAPPEN SOON

**1-7 December, State Comps:** Waikerie. All classes: Fixed, POST and AAP taskings. Contact Cathy Conway for more details.

**9-16 December, Performance Week:**

Waikerie. Improve your cross country flying. Must have cross country rating, Silver C preferred.

**Friday 21 December, AUGC Christmas**

**Party:** The AUGC Christmas BBQ Party is being held on **Friday 21st December** at **Dirk Seret's residence: 7 Maple Ave, Rostrevor.**

**Ph 8336 1224** Bring your own alcoholic drinks, meat and a salad bowl or a desert. Dirk has a pool, so bring you swimmers along (or risk being thrown in anyway).

**26 Dec –1Jan 02, Flying Camp at Lochiel:**

Make the most of this summer with a flying frenzy at Lochiel. Go cross-country and get a few badges or just do a stack of casual local soaring.... your choice.

**30 Dec - 11 Jan 02, Club Class National**

**Comps:** Temora. Handicapped POST tasking. Should have Gold Distance to enter. Contact Cathy Conway for more details.

**Wednesday 16 January, Exec Meeting.** Either at the Conway or Medlow residence. To be announced.

**Friday 18 Jan 02, Anthony's and Raj's Birthday Night:** A night in a pub somewhere to celebrate Anthony's and Raj's birthdays. More details as soon as I have organised them.

**Got any good ideas for social events? Get in touch with David Hichens at home on 8342 2956 to see what you can organise.**

**Uni Gliding**

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