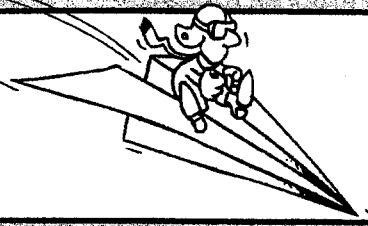


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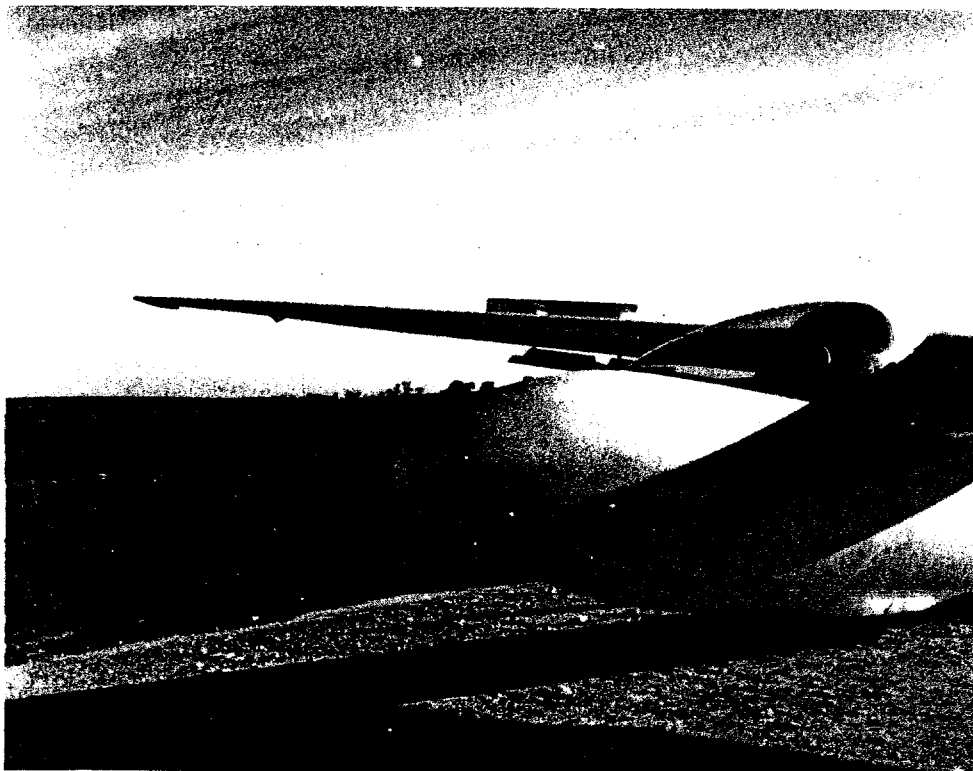
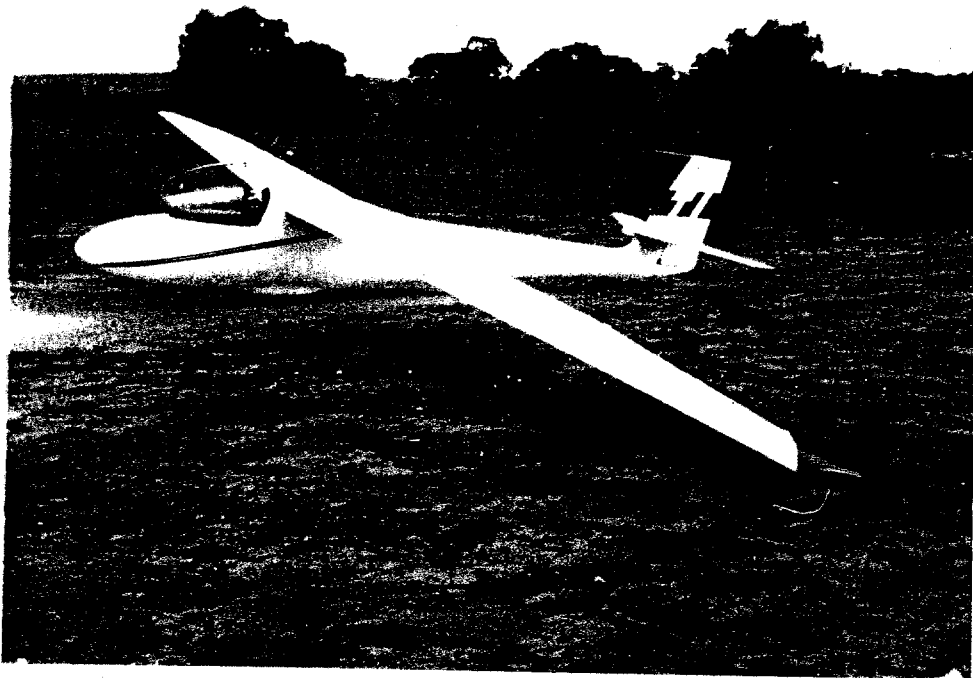
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The Official Journal of the Adelaide University Gliding Club

WEBSITE: <http://www.augc.aus-soaring.on.net/>



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## IMPORTANT NOTES FROM THE CFI

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### From The Instructors Panel

Foreign Aircraft - Recently a light aircraft overflew the strip at about 1,000' during a launch. The launch was sensibly aborted. Since we can't actually prevent other pilots being stupid, it is important for the hook on person to ensure the area is clear before launch, and to remember that *anybody* can abort a launch if they feel flight safety is compromised.

Annual Check Flights - Everyone should by now have had their annual check flight done and endorsed in their logbook. A suitable list shall be installed in the clubhouse.

*No pilot may fly solo without this endorsement.*

Be aware that any insurance issues may be compromised if the pilot cannot demonstrate he or she has had their annual check. Please, if you haven't got it signed out, bring your logbook to Lochiel next time and get it sorted out!

*David*

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## EDITOR'S CONFESSION

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O.K. a bit of self indulgence this month. Having been a bit slack and not arranged anything for the front cover, and with the deadline suddenly upon me, I have dug into my archives to copy some of my favourite gliding photos. Not that I claim to be any great shakes as a photographer (unlike a certain young lady in our midst - check out the centre spread in the current issue of *Australian Gliding*.) Rather the pictures are important to me as they are from when I did my Silver 'C' distance flight. The glider is *Boomerang* GTI, which by a mind bogglingly amazing coincidence also gets a mention in Emilis' article on page 6!

I can vividly remember how exciting it was doing my first 'serious' cross-country. Gliding is often portrayed as a tranquil sort of past-time, moseying around the sky without a care in the world. However when going after a specific goal, such as distance or time in the air, it really does require constant concentration. One lapse and chances are you'll be circuit planning much earlier than intended!

But, as Angus eloquently expresses in his article this month, the feeling of accomplishment when you achieve the goal is immense, and well makes up for all the 'circuit bashing' you had to endure to get there. It still amazes me that we are able to travel these distances and spend these amounts of time airborne using nothing but solar energy and our own skills. There is a saying that you don't get something for nothing in this world. Perhaps gliding is the exception that proves the rule.

*Steve*

## MIKE INDIA'S FLYING CIRCUS (or How not to do a five hour flight!)

Whenever life gets you down, Mrs Brown, and things seem hard or tough, and people are stupid, obnoxious or daft, and you feel that you've had quite enough .....

So started Saturday the 12th September. If I was told that I was the recipient of a large cellar full of grog and had been chosen to act beside Kate Beckinsale in a rather lewd and raunchy movie based on the life of Casanova, I could not activate a single grin muscle, such was my unenthusiasm for the day. \* Lesson # 1: If one day you wake up and you really don't want to be bothered with aviating, press on anyway for you never know how good the day can be. Things were not looking good; I was running very late, the sky was dark and rainy and the last thing I wanted to do was stand all day in a muddy quagmire trying to see the ridge for all the cloud. When I finally arrived at Bolivar thankfully Anthony was still there so I quickly piled into his car and off we set.

Twenty minutes up the road the sky was definitely clearing and the wind was definitely from the west so Anthony suggested it might be a good day for a five-hour flight. I could feel a grin muscle starting to move. The rest of the trip went per usual, at the airfield the *Puchatek* and *Club Libelle* went through the usual routine and I decided that I would prepare myself for a long flight. Water, chocky bars and a relief bottle were loaded on board, MI was towed to the launch point, checks were checked, I was launched and before I realised I was sitting on the ridge with possibly five hours ahead of me. The previous hours had passed without any mental preparation for five hours in the air and now here I was surveying the beautiful scenery not really giving a toss for how long I managed to stay up or where I might manage to go. \* Lesson # 2: I still don't know how you could mentally prepare for a five hour flight. My best advice would be to quote Mr Nike: "Just do it", or to quote my mother: "If a job's worth doing it is worth doing badly". Anyway, for the first hour I really had difficulty getting comfortable; I was constantly adjusting my straps and moving around to get in the best position, but after 12:00 I really started to settle in and concentrate on improving my flying.

Over the next three hours I was surprised at how the day and my general flying improved. My co-ordination and speed control were spot on, and it was nice to see the yaw string sitting vertical on the canopy for once instead of having it wag like a dog's tail. I was able to use a lot of the thermal lift, and as cloud base slowly lifted I was able to reach 4300' while flying a line of continuous lift, albeit rather shrouded by cloud and at this stage rather east of the ridge.

The geographical extent of my flight was limited from the northern end of the southern Hummocks to a bit north of the ridge. Despite the unadventurous nature of the flight, it was not without its interesting bits. While flying the south end of the ridge I could view seven cars making their way to the top of the ridge. As I got lower and lower to take a closer look I came out of a sharp turn to see an eagle come clearly into view. It then proceeded to fold its wings and came very much clearer into view, finally spreading its wings to give me a very close up inspection of its beautiful plumage as it quickly disappeared over the top of the canopy. Lesson # 3: Please keep a look out for eagles! This was a near miss partly caused by being distracted. While I tried to roll out of its way this response will never match the agility of the eagle. So to all those hundreds of super keen, soon to be solo pilots, please don't aim to be as inept a pilot as I am, keep your eyes on the task of flying. While I'm still on the soapbox and I trust you are still awake, for those people unfortunately stuck on the ground, keep an eye out for other aircraft in the sky, particularly during a launch. I've heard that if a collision occurs the results can look spectacular.

I now come to the last hour that I was airborne. My discomfort level was quickly rising and I started to realise that I had been in the air for quite some time and my concentration was starting to lapse. I certainly didn't have to struggle to stay up for the ridge was still working well, it was just a matter of not landing. When it did come time to land I did so, five times in fact. To say that it was an orthodox example of how not to land, would be saying just that. Although I thought that I would cope with five hours better than I did, the next day a real sense of achievement set in, not to mention a very sore arse.

All the best,

Angus

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## THE ART OF COARSE SOARING

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*There is no sphere of Human Endeavour that does not contain an element of the coarse. Over the following editions I hope in vain to enlighten you Dear Reader to this particular aspect of our chosen sport (any similarity to Michael Green's famous 'Art of Coarse' series will be taken as a great compliment).*

### THE COARSE PILOT.

Everybody knows who this person is. A true coarse pilot can be of any age or sex, what clearly defines the coarse pilot is a pathetic desire to impress others with skill and knowledge despite having the most marginal grasp of either. Around gliding clubs one finds a group of dedicated individuals out to improve their skills and generally have a good time. These people range from trainees to instructors to competition pilots and beyond. On the whole pilots don't make a big song and dance about their skill or the danger involved in the sport. This is one area where the coarse pilot excels, for subtlety is not a character trait of this individual. One is constantly reminded of the bravery and heroism involved in flying, and indeed it would be true to say that to take away the bravery and heroism of a true coarse pilot, one would have vanishingly little to say in favour of the person.

Despite the fact that a coarse pilot is hampered by an inability to fly in a smooth co-ordinated manner and a refusal to understand the most basic of aerodynamic principles, such a pilot always believes to have mastered the most complex aspects of soaring flight. One thing is for certain: no coarse pilot ever really improves, although they may slowly become worse as what limited faculties they had desert them with age. In an emergency such a pilot will always exercise the full displacement of whatever control comes closest to hand, is always leaving canopies open and survival options shut.

*Next issue ... Rude Awakenings.*

Angus

## EMPIRICAL DRAG ISSUES

This follows on from the September issue mathematical proof by Anthony examining the *Bergfalke* that the wheel shouldn't stick out so far. Those of us without that intellectual bent simply look at a glider and assume that if stuff doesn't stick out, the drag should be less. And so drag minimisation work has been done on all the gliders based at Monarto (even the *Motorfalke*).

Thus it is with TJ.

To overcome the glider's 'porpoise' tendency on winch launch, the hook has been moved back 2 bulkheads. This was done on the basis that TJ is just like its antecedent, Tango India, which we used to own and which had this layout. It works: we get higher launches (about 2 - 300'). The additional benefit is that now there is no disturbance to the forward air flow back to the new hook cut out edge. That should be less drag. The hook is also more recessed, opening the possibility of a rubber cover like the *PW-5* has.

As a result the laminar break away on the fuselage is now occurring at the canopy change in the curve point (see F.Thomas - "Basics of Sailplane Design"). To minimise this the canopy frame perimeter has been sealed, and the yaw string has been removed. (There is controversy amongst the TJ pilots about this, and we may yet install a new yaw string high up on the canopy).

Yet to be fitted is a cover to the perspex vent hole, since TJ has the scoop vent on the fuselage side. This will follow the Tango India experience with clear adhesive plastic sheet.

By then we will have figured out if a turbulator strip in front of the canopy edge helps or not.

To overcome the glider's asymmetric flight (tendency to drop its left wing, in plain language) we had started fitting a rudder tab. But in the meantime we sealed the rear controls with both foam centre insert seals (both rudder and elevator) and 'Kombi' curved plastic surface seals with turbulators (rudder only). Kombi seals were first tried locally on the *Twin Astir* (based on an Althaus paper), which has turbulators and aileron seals as well. Then the *Blanik* was similarly fitted. It is harder to fettle such a metal 2-seater than a wooden 2-seater like the *Bergfalke*. But ongoing work, including tape seals to all gap covers and even the wing sheet joins (based on early 1980's USAF trials with a *Blanik*) have brought a noticeably better glide to this aircraft.

Interestingly, the rudder on TJ has become even more effective, the amount of rudder deflection needed has reduced. The rear fin should be 'cleaner'. And the wing drop tendency has substantially gone away. Since the tab would have added drag, we have eliminated that.

A well known phenomenon of ES-type gliders is to lose substantial performance if not sealed at the wing-fuselage junction. TJ has had plastic adhesive strip tapes made which are fitted. This follows Chris McDonnell's trials with *Boomerang* GQG. That glider has an immaculate finish and work is continuing to bring TJ to that state.

This work suggests a range of easy, add on improvements beyond the wheel fairing which would bring better performance (and hence longer, easier flights) to the AUGC fleet and pilots.

*Emilis*

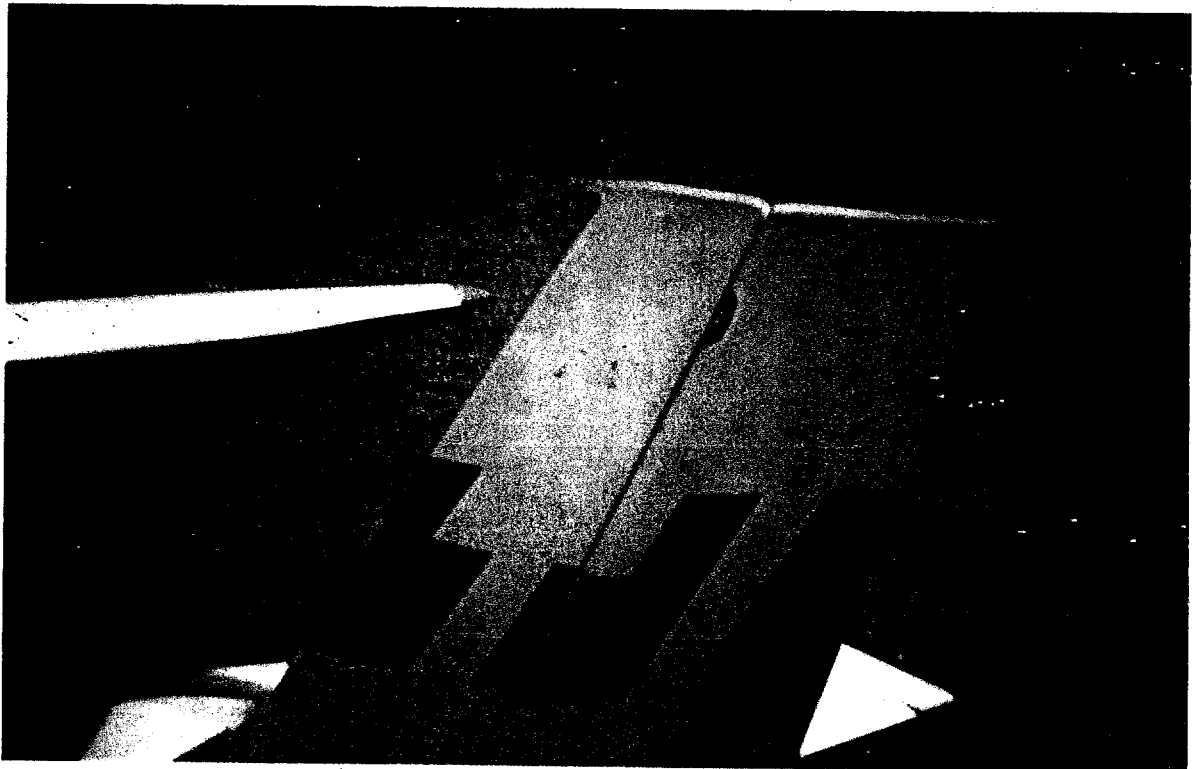
## ANTHONY'S COMMENTS

It is pleasing to see that someone actually reads the newsletter<sup>1</sup>. The wheel drag article was sparked by someone asking me how much additional drag was caused by having the wheel more in the airflow than the original design. The above article shows how far you can go when you want to expend a little bit of effort and improve a glider's performance.

It is well known that gap sealing control surfaces improves control effectiveness and reduces drag. However, the use of turbulator tape (or combination turbulator and gap seals) is to be used with caution. This stuff is primarily used on the wings to prevent laminar separation by 'tripping' the airflow and causing it to transition to turbulent flow. The turbulent flow has less drag than the separated flow even though it is 'laminar'. More advanced forms of boundary layer control are around but add complexity and weight to the aircraft. The laminar separation problem usually occurs on high performance airfoils near the trailing edge and often associated with aileron or flap deflection. Sealing the rudder gap will improve rudder performance but I doubt using a turbulator strip will have any performance increase. I suspect that it would cause a small increase in drag by prematurely transitioning the airflow to turbulent, however I may be surprised. A recent discussion with a *Puchatek* operator interstate indicated that they had put combination seals on their rudder and it had caused a rudder flutter like problem!

However, if club members are willing to invest the effort when the aircraft are at West Beach, then we could improve the aircraft performance by quite a margin, especially the *Puchatek*.

(<sup>1</sup> Please see last month's issue for the results of a survey on this matter - Ed.)



**OCTOBER ON FIELD**

**Sat 10 Oct:** Hangar building day & BBQ. Winch arrived slightly late. Anthony managed one flight in the Bergy before darkness (5 mins).

**Sun 11 Oct:** 13 flights, total 3 hrs 25 mins.

**Sun 18 Oct:** 12 flights, total 12 hrs 45 mins. Vicki Kolberg of the Uni Sports Association finally turned up on field for a flight. (There was mention of her asleep in Anthony's sleeping bag.)

**Sat 24 Oct:** 19 flights, total 7 hrs 58 mins. More hangar building.

**Sun 25 Oct:** 11 flights, total 7 hrs 50 mins. Hangar now useable - KRO moved in.

**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 and Tuesday evenings. Here is a summary of what has been going on:

**Arrow:** Annual inspection - new (or soon to be) solo pilots will be keen to get NF back into the air as soon as possible.

**Bocian:** Still at the back being slowly rebuilt. It was extensively damaged a few years ago and progress is slow because of all the other work.

**WHAT'S ON IN NOVEMBER?**

**General Meeting Wed 4th**

Cross-Country flying.

6:30 pm Uni bistro for dinner.

7:30 pm Cannon Poole Room, Adelaide Uni. Drinks in the bar afterwards.

**Executive Meeting Tue 17th**

7:30 pm at Raj's (8 John St. South Plympton). All Club members welcome to attend and have a say in how the Club is run.

**Indoor Rock Climbing**

Angus would like to organise a suitable night, preferably a Wed, Thurs or Fri during the last 2 weeks of November. Please call him on 84311491 if you're interested.



The annual Club Regatta is on Saturday 27 February and Sunday 28 February next year. Have a go at competition flying in our friendly regatta. Volunteers are needed to help organise and run this event - please talk to Anthony if you're interested.



Are you a third year mechanical engineer looking for a design project for next year? Want to see results for your design efforts culminate with it actually being built? The gliding club needs a purpose-built trailer for the *Bergfalke*. This aircraft is our cross-country and competition trainer, and its existing trailer is heavy, difficult to tow and cumbersome to use, so people are reluctant to take the aircraft cross-country and participate in competitions. If you're interested in this project contact Anthony.

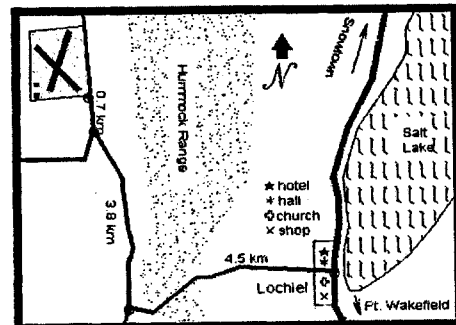
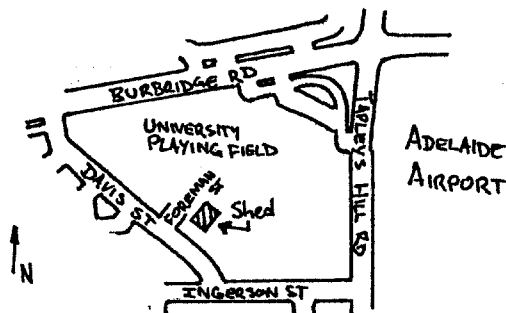


# AUGC: What's on in November?

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>30</b> 7.45 pm West Beach Shed  Winch #3						<b>1</b> Mildred, where's my darned Newsletter? Late again - I suppose, that new Editor is hopeless - should be shot. Wasn't like this when Mandy was running things... <i>Go gliding...</i>
<b>2</b> 7.45 pm West Beach Shed  Arrow Form II Winch #3	<b>3</b>	<b>4</b> General Meeting <i>Cross-Country Flying</i>  7.30 pm Cannon Poole Room, Adel Uni <i>All Welcome !</i>	<b>5</b>  <i>Call Contact Person</i> 018 810 963	<b>6</b>	<b>7</b>  <i>Go gliding...</i>	<b>8</b>  <i>Go gliding...</i>
<b>9</b> 7.45 pm West Beach Shed  Arrow Form II Winch #3	<b>10</b>	<b>11</b>	<b>12</b>  <i>Call Contact Person</i> 018 810 963	<b>13</b>	<b>14</b>  <i>Go gliding...</i>	<b>15</b>  <i>Go gliding...</i>
<b>16</b> 7.45 pm West Beach Shed  Winch #3	<b>17</b> Executive Meeting 7.30 pm at Raj's 8 John St South Plympton <i>All Welcome !</i>	<b>18</b>	<b>19</b>  <i>Call Contact Person</i> 018 810 963	<b>20</b>	<b>21</b>  <i>Go gliding...</i>	<b>22</b>  <i>Go gliding...</i>
<b>23</b> 7.45 pm West Beach Shed  Winch #3	<b>24</b>	<b>25</b>	<b>26</b>  <i>Call Contact Person</i> 018 810 963	<b>27</b>	<b>28</b>  <i>Go gliding...</i>	<b>29</b>  <i>Go gliding...</i>

## SO YOU WANT TO HELP AT WEST BEACH?

- Do you want to help fix the gliders or build the winch at West Beach, but can't get there?
- A lift is available from the Adelaide University footbridge at 7.30 pm Mondays and Tuesdays.
- You can also ring Anthony on (08) 8393 2646, e-mail: [anthony.smith@adelaide.on.net](mailto:anthony.smith@adelaide.on.net). He can organize a lift for those who need it.



## SO YOU WANT TO GO FLYING THIS WEEKEND?

- You must ring the club contact person, Mandy, on the Thursday before, between 8.30 pm and 10.00 pm, on 018 810 963 so that she can organize instructors and transport for those intending to fly.
- A lift to Lochiel is available from the Adelaide University footbridge at 7.00 am, from the Caltex Service station on Port Wakefield Rd, Bolivar at 7.30 am, or from elsewhere (by arrangement only) if you have real transport problems.

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

### Uni Gliding

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

