UNI GLIDING

adelaide university gliding club newslet

JULY '8

EDITORIAL

As Sandra and I have taken on the job - privilege - fantastic opportunity - great honour of Editors-in-chief of the illustrious yet tarnished-rag of Gliding Groups, the Uni Gliding Newsletter, we wish to firstly say that this has nothing to do with the coming knighthoods for the Queen's Birthday Honours. We're too late this year, we've found out.

Of course, having a good, honest, solid, married couple, ensures that the letter will only contain good, honest, middle class values, but no, it's not true, we will definitely not be promoting tankards for hamburger purchases.

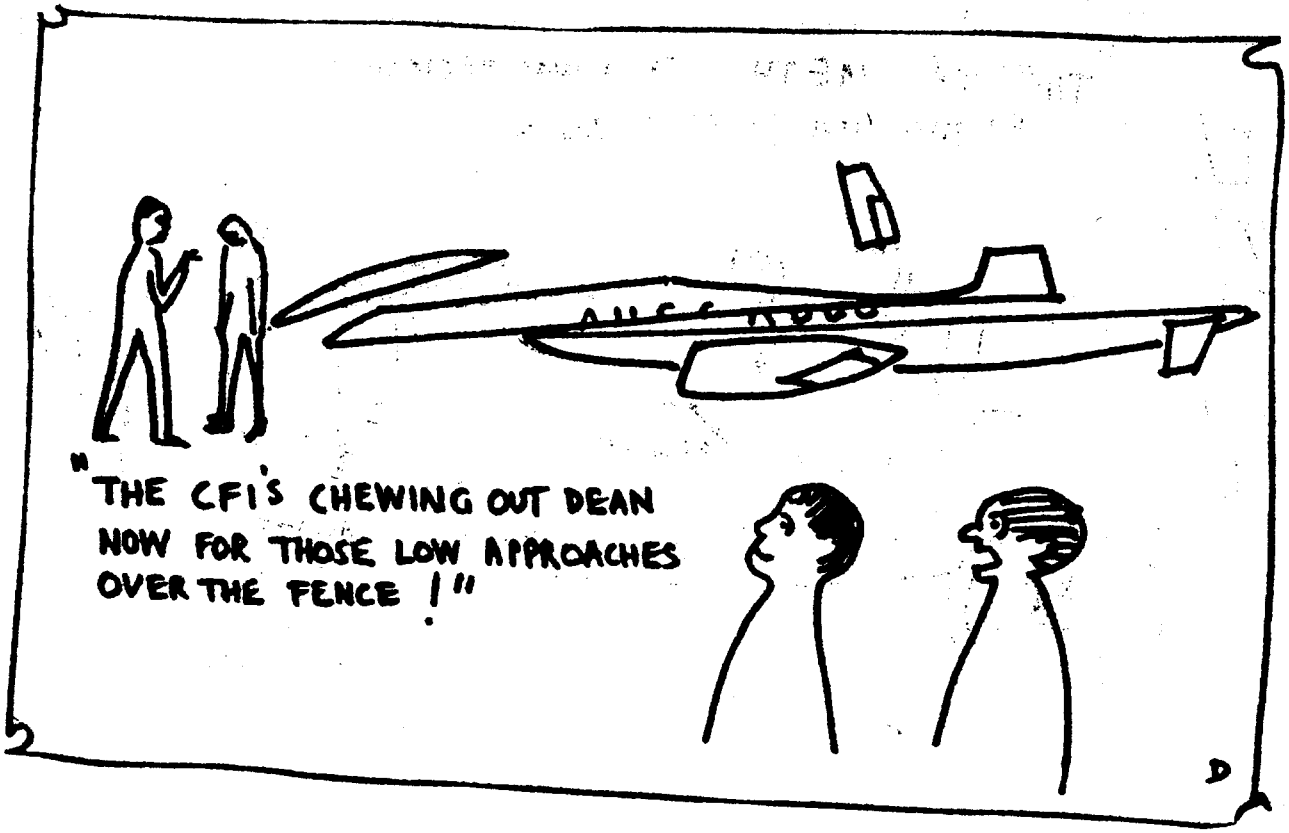
O.K. then, now for a few promising thought or two. Firstly this new letter has always been a source of humour and information. Often it's difficult to tell which is which. Sometimes it's also difficult to separate members opinions and club information, particularly when facts of the situation are up for grabs. So then, we'll have some lovely rules. Now let' think.....

Rule 1. Anything written by us will be club information and can be taken as gospel.

2. Anything written by others will be opinion only.

Seriously though, in this issue, we have aimed to take a slant of providing the reader with an assortment of club information, opinions, news, some statistics, and most important, the opportunity to let out the valves with some light relief. (When used for relief, simply use half a sheet at a time)

What we'll need though, is contributions. Please send them in.



LADY DI AND CHARLEY TAKE PLUNGE:—

LOVELY LOCHIEL FOR HONEYMOON

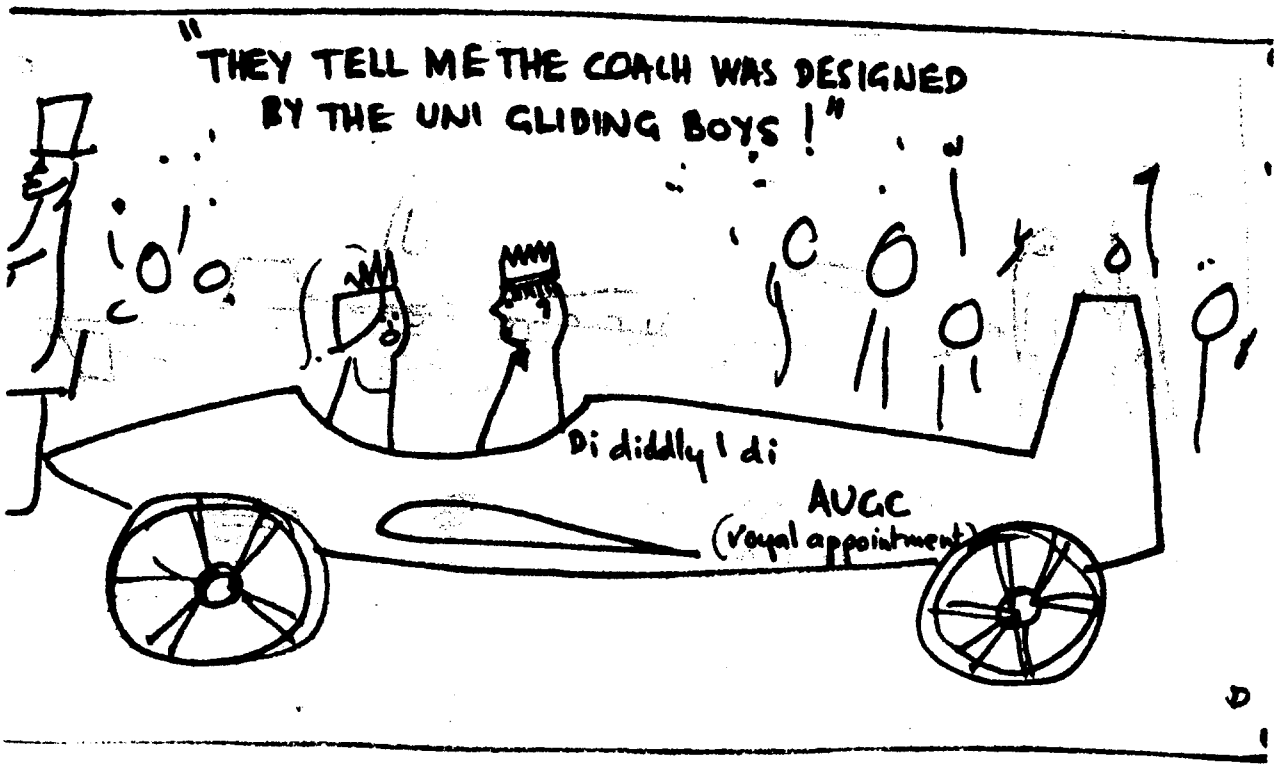
Lochiel scores again! With the royal couple anxious for a honeymoon with a difference, an approach by a well known A.U.G.C. has promoted Adelaide University Gliding Club for the venue.

"I just can't resist the glint in the eye of a glider pilot" says Di. Charles, tumbled from his high horse, has declined to come for the ride. "I try to keep an eye on my Di", says his highness.

Glider pilots from A.U.G.C. are ecstatic!

The club is puttin the final touches on "Harley Hall", their country club premises, whilst the club two seater is getting a face-lift with a new canopy.

Topless gliding at Lochiel has been boycotted for the royal couple's stay.

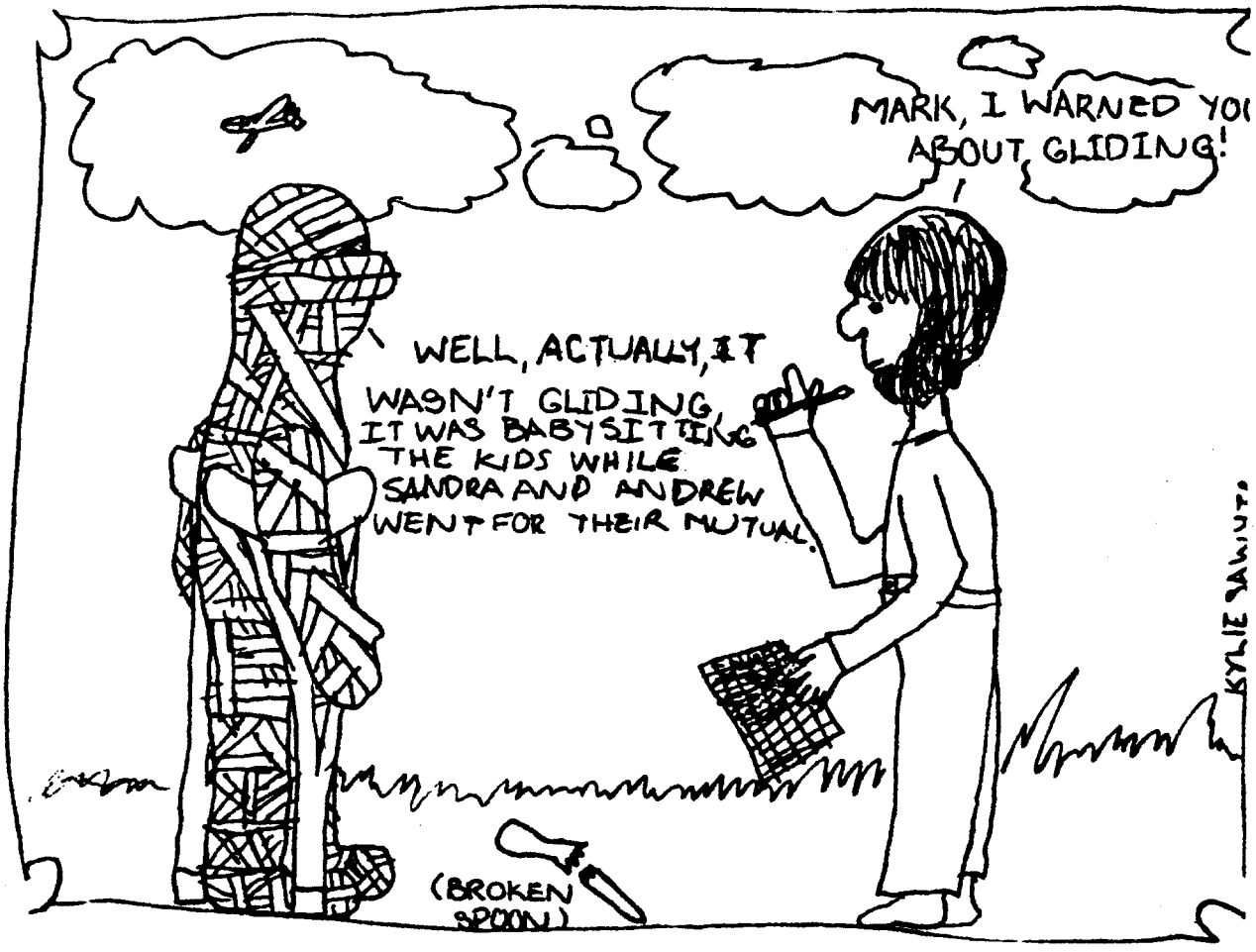


EVERY CLOUD HAS A SILVER LINING - SOMEWHERE

It was a great day at Lochiel. The early March sun had warmed the earth and generous thermals were providing lift enough to satisfy everyone. After doing some duties on check flights and mutuals, Don Hoi decided it was too good to miss the opportunity for a crosscountry in the Arrow and a shot at his last requirement for the Silver C - the 50 kilometre distance.

He talked it over with the experienced pilots on field and the requirements were considered. Tie-down kit, water, sunglasses, parachute, money for phone calls... What else was there?... Yes, maps. Don had ONC (radionavigator's chart) and VTC (visual termination chart) but no map, his first of many errors for the day! Robert Adams came to the rescue with an Ampol roadmap.

Happily, quite a few people had taken special [illegible] of the weather forecast


MARK, I WARNED YOU ABOUT GLIDING!
WELL, ACTUALLY, IT WASN'T GLIDING, IT WAS BABYSITTING THE KIDS WHILE SANDRA AND ANDREW WENT FOR THEIR MUTUAL.
(BROKEN SPOON)
KYLIE SAMUTS


NOW I KNOW WHY ITS CALLED 'BOGGY STRIP GLIDING CLUB'
CS ARTIR.
WEATHER REPORT RECENT RAIN GLIDING STRIPS A BIT BOGGY

David Bond and his brother Roger were working on David's new carbon fibre Ventus, a nice looking ship. Roger was an official observer and verified the landing, then they brought out the winch to get Don away for the return journ But where were those wonderful clouds? And Don suddenly remembered that there had not been a sign of lift on the river side of the range. A fine launch to 1500' and a search to the north where some clouds beckoned a long way off. Odd scraps of lift but nothing hopeful and finally Don had to give it away. Now what to do?

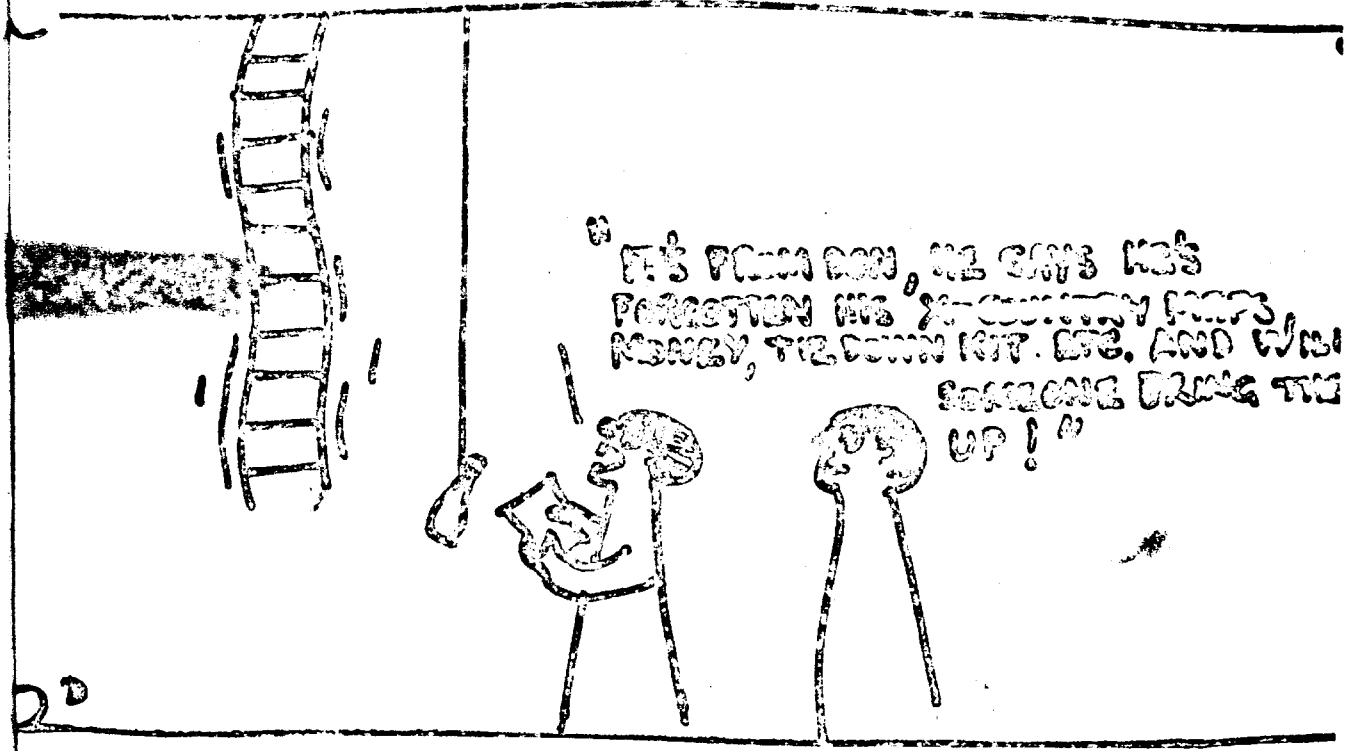
Carefully the Arrow was securely tied down and David drove Don to the chur where a phonebox was located. The Club number had been written on the route a and Don had coins but the exchange was manual and when the telephonist asked for 90c to be inserted Don had the embarressement of asking would 70c (all he had in change) do! Andrew patiently waiting near the phone on the hour as arr nged and Don told him of the plan to leave the aircraft out over night and to see if someone from the Sunday group wanted to have a go at their Silver C by flying the Arrow back. The discussion was interrupted and terminated by the operator wanting more coins! After hitching a series of rides back to Adelaid Don telephoned Dene who agreed that Dave Ellis and he would try the return tr

As it turned out the day was a loser. After a few tries Dene and Dave had double trip to Lochiel to get the trailer, back to retrieve the Arrow and onc more all the way home. Nobody was very happy with Don or the day even after a numeration for petrol.

A number of lessons were to be learnt.

1. Always carry your crosscountry kit including maps, coins, water, someth to eat and extra clothing. Plus all the other things in Tony's list such as sunglasses, UV cream, mirror, bandaids, plastic electrical tape etc.
2. Always plan and assume a retrieve will be necessary and organise the ca and equipment.
3. And especially if you are going for a qualification know the requiremer For the Silver C height and distance you must carry a barograph.

The irony is that Don didn't and he has to do his 50 kilometre crosscountr again!



Aaaagh! Not again

yes friends, it's the auntie Amy Biggles Column!

WELL FRIENDS, AT LAST, WE HAVE FOR A CHANCE, TWO GENUINE LETTERS!

DearAuntie Amy,
As a new-comer to gliding, I found that orientation was/is a problem. Once finding out which day it was, the introduction to gliding seems bewildering to someone naive'. Ground instruction (and reassurance) would be greatly appreciated in some sort of consistent fashion. The rotation of instructors leaves fragmentation of learning. I know it's difficult to always have the same instructor, but a cheap guide/instruction booklet itemising the steps of learning would help, as would the "ground rules" as to what is expected on field.
Signed Fragmented.

Dear Fragmented,
I am hurt! I thought that my column has always held the tradition of being cheap and reliable guide to what's what and who's who in the gliding circles. However, don't go to pieces your suggestion is a good one.
Signed Amy. *

Dear Auntie Amy,
Although I am three years too young, I was wondering if I could join your Adelaide University Gliding Club, as I am well interested. I know almost everything about gliding, chaotic working the radio, writing on the flight sheets and running the wing.
Signed Pleading.

(Well, it happened to Star Trek, Lost In Space and Buck Rogers, now it's happened to my column, what started out as good adult entertainment, has gone to the kids!)

Dear Pleading,
Being the club authority on almost everything, I can about! Gliding is work, swe blood, tears, guts, gore and you cop a lot of other stuff to the bargain. When you ca get up, still dripping with stuff and look our founders the eye, with a glint in you and say "I love my glider, I proud of her club, I salute her flagging, I honour her i structors, I promise to obey her rules-de-jour", then, an only then, you can join our loved club.
P.S. by the way dearie, a wo of advice from Auntie. When you run the wing, make sure it's attached to the glider -lots of fun I know, but expensive!
Signed Auntie Amy.
(Was that you Mark? I recog nised your writing!)

Dear Auntie Amy,
Hullo! Just thought I'd drop you a line usually 'phone in on talk-ba programs but as you don't ta 'phone calls, well, here I a Just want to say, I agree, after all, you're the expert and if not, then I disagree- well, it depends on your poi of view.
Well Goodbye,
Signed Edna E.

Dear Edna E.,
Well, thanks for your comment. It is concern people like you who are need in our club. You'd be a sma hit at one of our meetings.

*(Re first letter) We do have club manual of flying proced Does everyone posess one? I not, see Guy.

DISORIENTATION IN FLIGHT

Disorientation means a situation in which a pilot is confused about the position, attitude or motion of his aircraft because of false bodily sensations. Mild temporary disorientation is a common experience in flying and does not normally cause trouble for experienced pilots who learn to disregard the erroneous sensations. However, serious disorientation, with loss of control resulting in an accident, can and does occur and all pilots should know about this problem and how to deal with it.

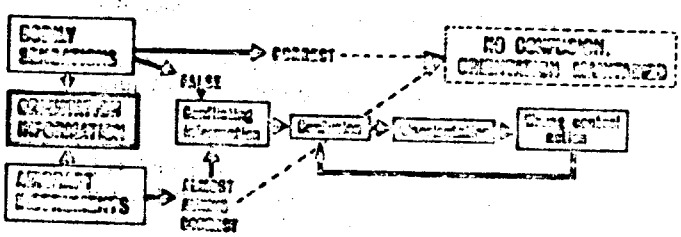
On the ground you remain oriented by the balance mechanism in your ears and the muscle, joint and skin receptors throughout your body ("seat of the pants" sensors). Above all, your eyes indicate your orientation by sight of things about you.

In the air the effect of accelerations and visual illusions mean that all these sensors can mislead you and disorientation may result. The pilot and the aircraft form an integrated control system and the pilot is the weaker link in this system because of human limitations. There are two main ways in which the weak link may break down:

(i) Confusion from conflicting illusory information received in the brain from different sensors, *eg* your eyes and the balance mechanism of your ears.

(ii) Failure to obtain the correct information *eg* misreading or, more rarely, the fault of an instrument or neglect of essential information because attention is directed elsewhere.

Should either of these situations occur, wrong control action may be taken and a potential accident sequence initiated.



Many situations predispose to spatial disorientation. The main ones are:

(i) Any situation involving a reduction or change in the way essential cues are available to you, *eg* on transition from visual to instrument flight or attempting to fly visually as in poor light, haze or at high altitude.

(ii) Immediately after aerobatics, particularly prol spinning or rolling manoeuvres.

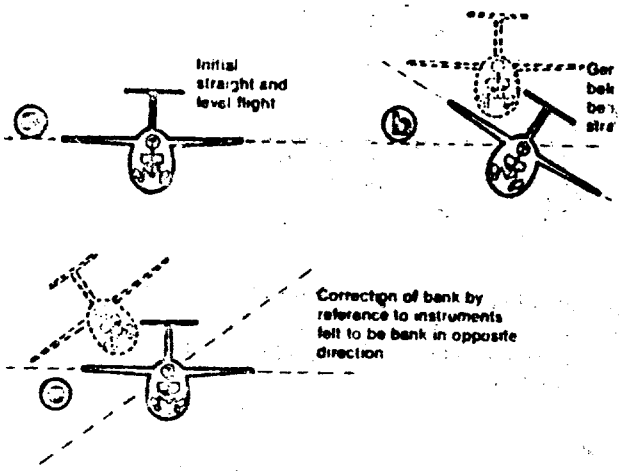
(iii) When head movements are made in a turning aircra outside visual reference is lost, as in changing an R/ quency.

(iv) When out of flying practice.

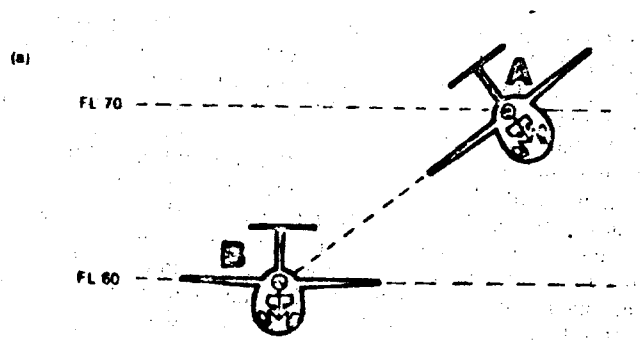
(v) Impairment of brain function by oxygen-lack, al fatigue, emotional disturbance or medication.

Among the commonest types of disorientation are:

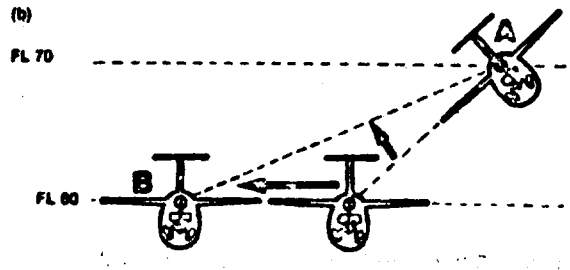
(i) False sensation of attitude. This often occurs in straig level flight. The aircraft having gently banked without sensing it, owing to lack of attention, the banked attitud be wrongly perceived as straight and level. Correction bank to the level position, as indicated on the instrument now give a feeling of bank in the opposite direction:



This experience, common in many pilots, is known a "Leans"! Further in (b) above, a pilot looking along the w his aircraft, which he believes to be straight and level wit have the false impression that another aircraft, in line wi wing, is at the same flight level:

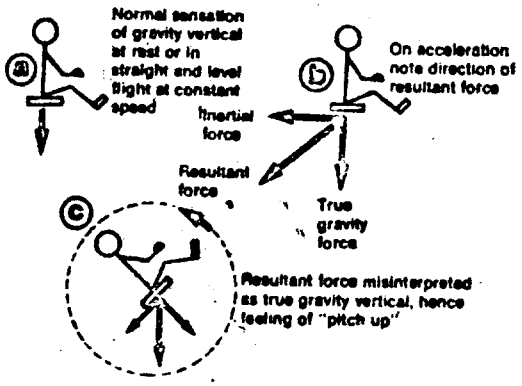


If the lower aircraft (B) now changes its position at the flight level, the pilot in the higher aircraft (A) may deduc the lower aircraft has climbed:



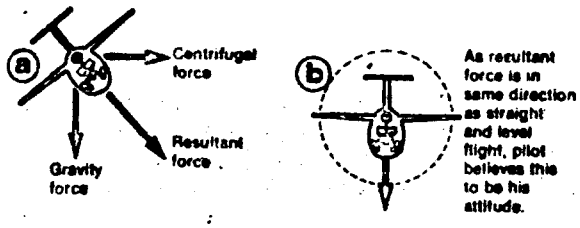
Such a situation has definite confusion and accident potential.

(ii) **Misinterpretation of the gravity vertical.** This can occur because of the resultant of the forces acting on an aircraft, to which the body balance mechanism responds, does not coincide with the true gravity vertical. A false sensation of attitude will arise if the pilot regards the resultant acceleration as his vertical reference as can occur in forward acceleration on take-off or overshoot:



The opposite effect will occur with deceleration giving resultant feeling of "pitch-down".

The same misinterpretation of the gravity vertical is possible in a co-ordinated turn:



These forces and effects are most apparent in high performance aircraft. The danger of inadvertent "correction" by the pilot in response to these illusions cannot be overstressed.

(iii) **False sensation of turning.** If the aircraft is deliberately turned, the balance mechanism of the ears senses the turn and this information is passed to the brain. If a constant rate of turn is now maintained, the sensation of turning lessens and may disappear altogether. If the pilot then rolls out of the turn to fly straight and level he may feel that he is now turning in the opposite direction, and compensatory eye movements which involuntarily accompany such a feeling may blur vision and make attitude checking difficult, with possible disorientation and loss of aircraft control.

(iv) **Coriolis stimulation.** If while the aircraft is turning in one direction the pilot moves his head in another direction, perhaps to select a switch or alter a setting, the stimulation of the balance mechanism of the ears in the two planes of rotation at the same time can produce a spontaneous stimulation of the ance mechanism in a third plane of rotation, with comple confusing messages being then sent to the brain. Severe orientation may follow.

(v) **Pressure vertigo.** Sudden changes of pressure in the when clearing them, either on ascent or descent, can produc susceptible pilots a strong feeling of disorientation, usually l ing only a few seconds. While present it can be most alarn and has been known to cause severe impairment of fl performance.

To summarise so far:

1. False sensations or sensory illusions may occur at any t in a pilot's career and in fact commonly do occur in normal course of events.
2. These illusions are most likely when trying to fly visu without adequate external cues, and loss of aircraft con may result.
3. The impression created by these illusions on the pilot be very powerful. Determined and persistent concentra on the aircraft instruments is often required to overc the feeling of disorientation.
4. Except when flying in good visual conditions, when eyes can easily verify your position, attitude and mot with respect to the surface of the earth, bodily sensat are usually unreliable, whereas failure of the flight ins ments is much less likely to have occurred.

To prevent disorientation:

1. Make sure you feel fit to fly. Anxiety, alcohol, dr fatigue, even missed meals can predispose to disorie tion.
2. Maintain as high a standard of instrument flying as you and be thoroughly familiar with each type of aircraft yo and flight procedures so that mental conflict is less likel occur.
3. Be on your guard against the possibility of disorienta and try to avoid situations likely to produce difficultie

What to do if disorientation does occur

Since temporary mild disorientation is something pilots h to live with, the majority are probably not consciously awar having to do anything. However, if troublesome or severe orientation does occur, then:

(i) Get on instruments. Scan and check your instruments tematically. Believe absolutely in the accuracy of their info tion (they can't all be wrong) and try to disregard conflic body sensations.

(ii) Stay on instruments until unambiguous external become available.

(iii) Avoid rapid head movements until instrument orienta is established.

(iv) If severe disorientation persists, discontinue poss aggravating procedures, hand over to co-pilot/instructo summon a companion aircraft. If flying solo, abort the so inform ground control of your problem and request GC other available aids.

Any further information or advice on this subject may obtained by contacting the Civil Aviation Authority Me Department at the following address: Civil Aviation Autho Medical Dept., Shell Mex House, Strand, London WC2; phone No. 01-836 1207, ext. 493.

If contributing to S&G, please send all copy to the edit address: 281 Queen Edith's Way, Cambridge CB1 4NH

You've read Jaws, Hurricane, Earthquake, Volcano.....
Now, here it is - the epic.....

WINCH

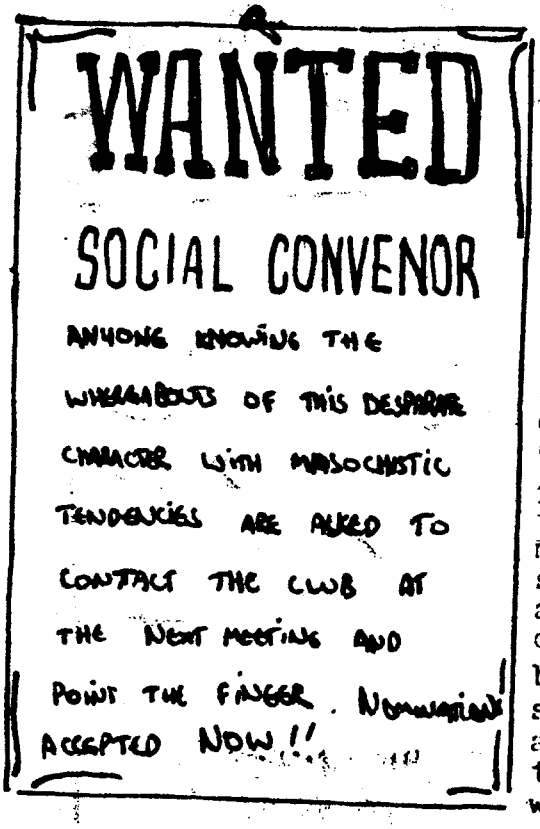
With the proposition of a holiday at lovely Lochiel with the family friends of the family's, family, the breaking down of the winch selector mechanism, (not due to abuse, but through gradual wear of brackets on selector fork), spurred Stuart (fiend) to assist in the two day job of fixing it. The water pump was also renewed and I spent 8 hours re-machining and fitting bearings, and adjusting the roller heads, which were pinching wire due to their incorrect adjustment.

Upon arrival on the field on Sunday, we discovered the winch with the cable swivel gear nicely jammed in the rollers (why do people always blame the rollers?). These unjammed, we enjoyed a medium ridge day.

The only cable break of the day, directly due, in my humble opinion (I was driving the winch), to a steep pull back on launch resulting in loss of cable end (day-glo missing) and looping of cable on drum. Still it was near last light and we packed up soon afterwards. With many unexperienced ground crew, operations were slow, but otherwise enjoyable and the day was followed by much revelry and embibing at the shearer's quarters.

With anguish, declined Bill's offer of a roast dinner, after all, two family's with six kids would possibly be more than he'd bargained for. What a nice person though, giving the kids rides on the tractor plough at six in the morning! One of nature's gentlemen, you meet some really nice people in the country.

Next day, with Sandra and myself the only club members, Sandra was as sick as a dog (no comments please!-S) so no flying.



The ute had had it (clutch). We got the falcon going - tyres pumped up. Stuart and I thought, "well we can fix some things!" The cables were run out and reversed on the winch. The wires were checked for fraying. Noticed most of the breaks near the cable end (thinks! AHA!- breaks near top of launch - pulling back at top of launch pulling back at the top to get the last few inches of height?). Noticed also only two or three single swages left (thinks! AHA! most have pulled out and been replaced by doubles?) Noticed also many old (well worn) double swages still in good condition. Noticed also that fraying of wire ends was causing splitting of some swages, maybeas they are "gunned in" at terrifi speed, but ofcourse we don't do this after launch now as we have discover that this promotes catching...or do we?

Anyway, we tried an experiment of rounding the ends of swages with the crimper so they virtual cover the ends of the wire. I hope this will prevent or reduce our largest cause of recent cable breaks, the splitting away of swages by strands - anyway, we'll see. Dayglo fitted back to ends of cable.

An attempt was made to fix the Bocian brake cable, brought up on Saturday, but where the hell was it?

futile. Inspected the front release. As it was bearing directly on wood, this was trimmed back to steel tube and -behold- the front cable easier to operate than the back! Short term though, perhaps eventually a little roller swivel needed in place of tube.

Next day, Sandra well again, but Mini sick - couldn't get it started. The others went on to "open up" while I fixed it. Much later, still trying to fix Mini - Stuart returns - no-one knows the combination of hangar. Arrive at hangar very late doors still closed, open doors. Winch battery flat - jump lead start. Notice generator not charging - noticed wires burnt on cage - ammeter wires shorted to cage. Has happened before throu steel on worn tyres used to chock the drums, cutting through wires - fixed. Winch driven to launch point. Stalls! Needs re-jump start. How do we open Stuart's car bonnet to jump start One of the kids sent back to Stuart (trying to fix Mini) at the hangar, arrives back much later. Falcon/winch batteries were swapped in the meantime and Sandra takes winch up to launch

At 2.15 p.m. we have a successful launch - Yippee! it was all worthwhile!! - 5 minute circuit.

Oh I forgot, the winch tyre was found flat, needed pumping up. The batteries were left at hangar but not charger, so by Tuesday these were flat, launch by wing signals.

Oh, oh, trouble! Sandra walking back from winch before third launch. The main battery lead fused onto exhaust pipe, complete front end power out. Who thought to pass the lead right under the exhaust pipe? result - hole in exhaust pipe.

Thinks! I am going to scream! thinks! I am always very critical of people doing their nuts on field- most unpleasant- thinks! I must remain calm , composed etc.-thinks-Aaaaaaaagh! The next few minutes , (or was it hours) sees us pull a perfectly good battery lead from the old truck wreck and install it in the winch. The rest of the day , what there was left of it - Hallelujah!- uneventfull. Total day's flying - 8 circuits. However, strangely enough, it was all that everyone wanted. I wonder why..... ....?

A.P.S.

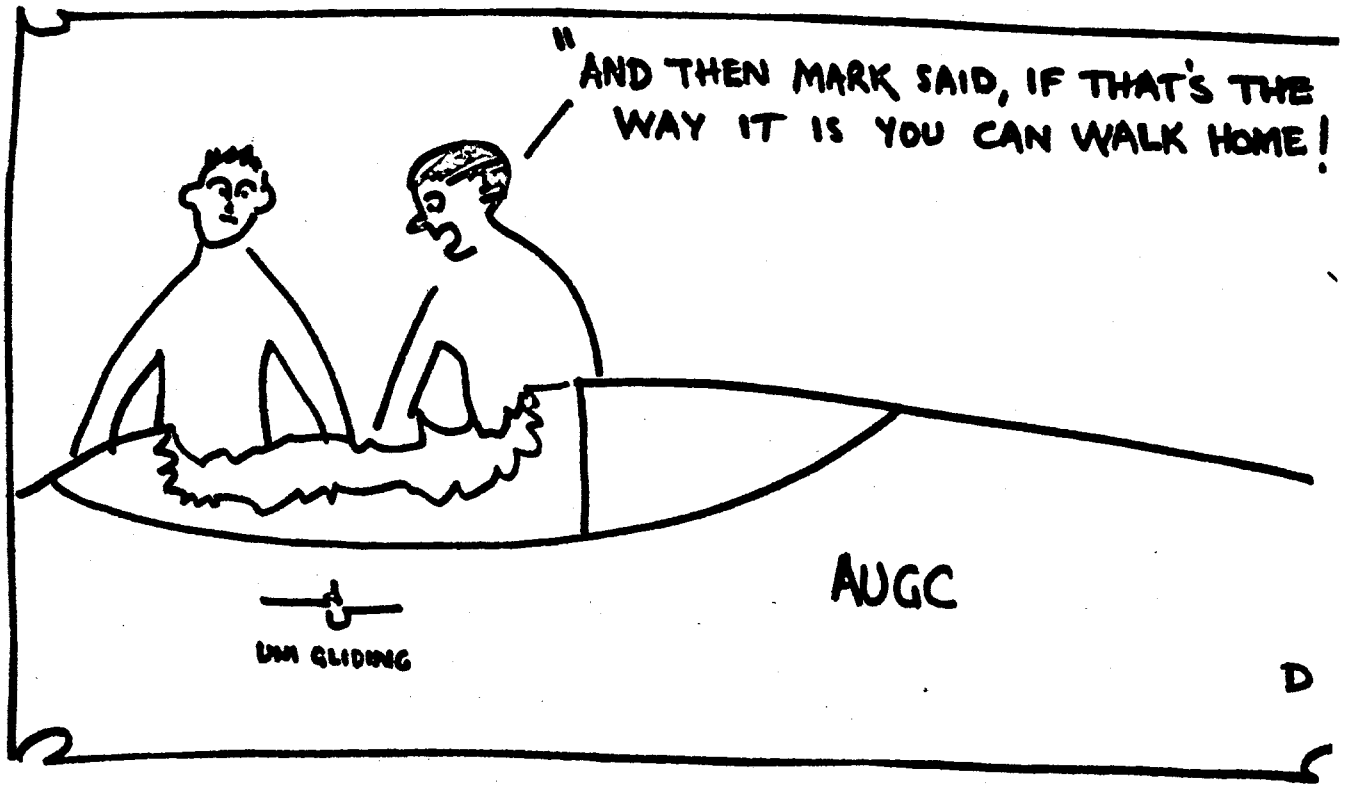
GLIDING UNCOVERED BY. SAS.

It started out as a normal Sunday at Iochiel. We all know the kind of thing, everyone fighting over the priveledge of doing the P.I's on the aircraft, pilots thoughtfully insisting that other pilots have the valuable experience of washing the aircraft, because they had done it last time or the time before. It was all such fun, and things progressed in this casual fashion until finally things got underway and we towed the aircraft out to the airfield.

However, the fun really started when I received this garbled message on the radio from the Bocian, which had been ridge soaring, Mark instructing, and Karen training. It sounded like Mark was saying he had out-landed and wanted us to tow the Bocian trailer with the winch to pick he and Karen up. Ofcourse I knew I must have been reading the message incorrectly, because Mark has his own original style of sending radio messages, which is often mis-understood, so in keeping with tradition, I asked him to repeat the message. His voice had the undertones of someone trying to keep his cool (which is unusual for Mark who operates almost exclusively bordering on, or toppling over into, hysteria) as he repeated the message that he had outlanded in a paddock near the ridge and required a retrieve team to pick him up.

"Mark, why have you outlanded?" I asked innocently, thinking the question a reasonable and natural one under the circumstances. The reply came in the style of the Mark we have all grown to know and love, i.e. bordering on, and toppling over into, hysteria, that the canopy had blown open while they had been flying and smashed as it hit the fuselage.

Meanwhile, at about this time, Guy, Don and the Hein family, arrived on field for a leasurely afternoon's passenger flying. It was so sad to see Guy's happy smile turn to a glazed grin when I told him the news. I've



only seen this happen once before with Guy, at the Silver Spoon restaurant, when he was told that strawberries and cream were off. However, he took it like a man, and he and Don headed off with the retrieve team, leaving a few of us back on field to cook the hamburgers and make the coffee, ready for their return. (It's such a nice change for me to go to Lochiel and cook over an open gas stove instead of the electric one in my kitchen at home)

Time ticked by, as we waited for the return of our intrepid outlanding crew. There was some speculation as to how far the derigging had progressed, when suddenly our attention was attracted to something flying along the ridge. Was it a bird? Was it Superman? No, it was a plane! It was a glider! It was the Bocian! We stared in wonder and amazement at this apparition which was drawing ever closer, the Bocian, with no canopy and this grinning head sticking up out of the front of it. Someone, I'm not sure who, started singing "Coming in on a wing and a prayer". A general buzz of excitement swept over the little group of people congregated around the pie-cart.

As the Bocian approached the airstrip on final approach we could clearly discern the identity of the windswept pilot in the front. It was Guy, doing his Red Baron act (or was it Snoopy?).

After the general hub-bub and excitement had died down a bit, we began to realise the possibilities arising from this unfortunate situation of having no canopy. Why not fly without it? So I suppose you could say that Mark was directly responsible for the introduction of topless flying at Lochiel.

A MANAGER TO RUN LOCHIEL Emilis

Adelaide University and its gliding club have a considerable investment in the gliding field at Lochiel. During the last year, and in particular recently, events have shown that a club Executive in Adelaide is unable to effectively keep the Lochiel field operational.

Other sporting activities have groundsmen. An airfield of 400 acres has a workload too. Now, this article does not base itself on the University paying for full time supervision of the Lochiel facility. However, it is clear that the workload is too high for a committee (i.e. a body of talk) based 140km away from the action to get the urgent things done that we need to give University students and staff the flying they are seeking.

By all means have a committee, they don't do much harm (not much positive either for that matter), but let them appoint someone to do the specific jobs that need to be done.

Like what.
The aircraft need maintenance, so that when we arrive in the morning, we can roll them out and fly. Let's overcome this delay of having to repair wheel brakes, tow hook springs and tail skids.

The winch and vehicles need to be kept running. Engine tunes, buying oil and petrol supplies, and fixing those million things that get left. So when we turn up to fly, we don't spend hours trying to get the equipment started to be able to drive it out of the shed.

Build the clubhouse. It's obvious that the delay in getting the building up is due to not having someone on the spot to coordinate the whole thing. I remember in the good old days when we had a manager, who was on field every day of every weekend, working around the place when he wasn't on the winch, or in the back seat instructing. I can't remember what's his name, but the club certainly buzzed in those days. Everytime members turned up, the club flew, because the repairs and work got done mid week. I hear there's a club east of the hills that has a manager (oh and of course the two full time clubs have managers).

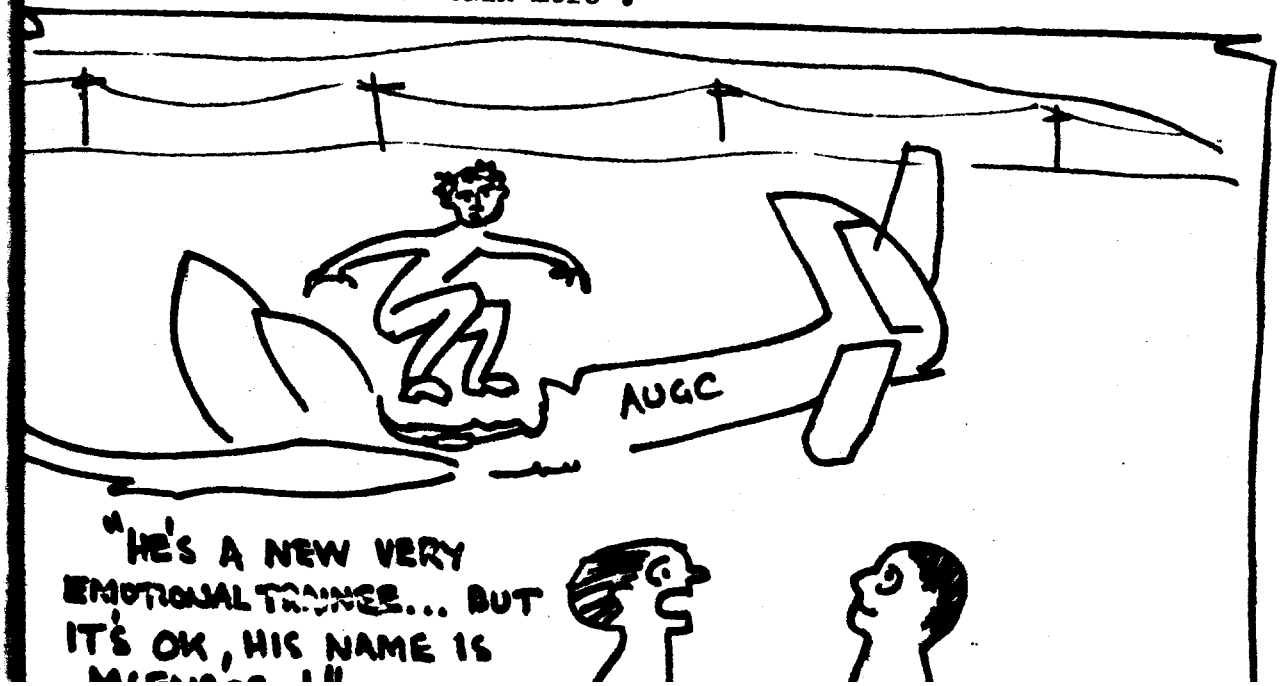
The manager too can run the flying scholarships, the membership drives etc that have been a mess when 'organised' by committee.

But how do we pay this manager.
Because sure as eggs he aint gunna do it for nothing.
Lets see, how much flying did the club do last year.
About 170hours.
How much flying did the club do in one week at Mildura with a manager organiser handling it? 25 hours. (That's equivalent to 1300 hours per year).
How much flying did the club do in the first years with a manager ? 300 hours, with only one plane.

So, let's say we REDUCE flying fees to 5c/minute. We leave the club with the same income it got last year (170hrsx8c/min =$800) The manager keeps the rest (300 hours at5c/min=$900; the manager earns $100).

We do the same with launches.
What's in it for us?

1. Club members get CHEAPER flying.
2. The club does more flying
3. The manager gets an incentive to get the max launches and flying done
4. The club has more capacity for members
5. More members are attracted to the club by the better flying conditions and manager run promotion.
6. The Sports Association gets a better return on its investment.
7. The club Executive has the boring details taken off its hands to permit them to talk more .



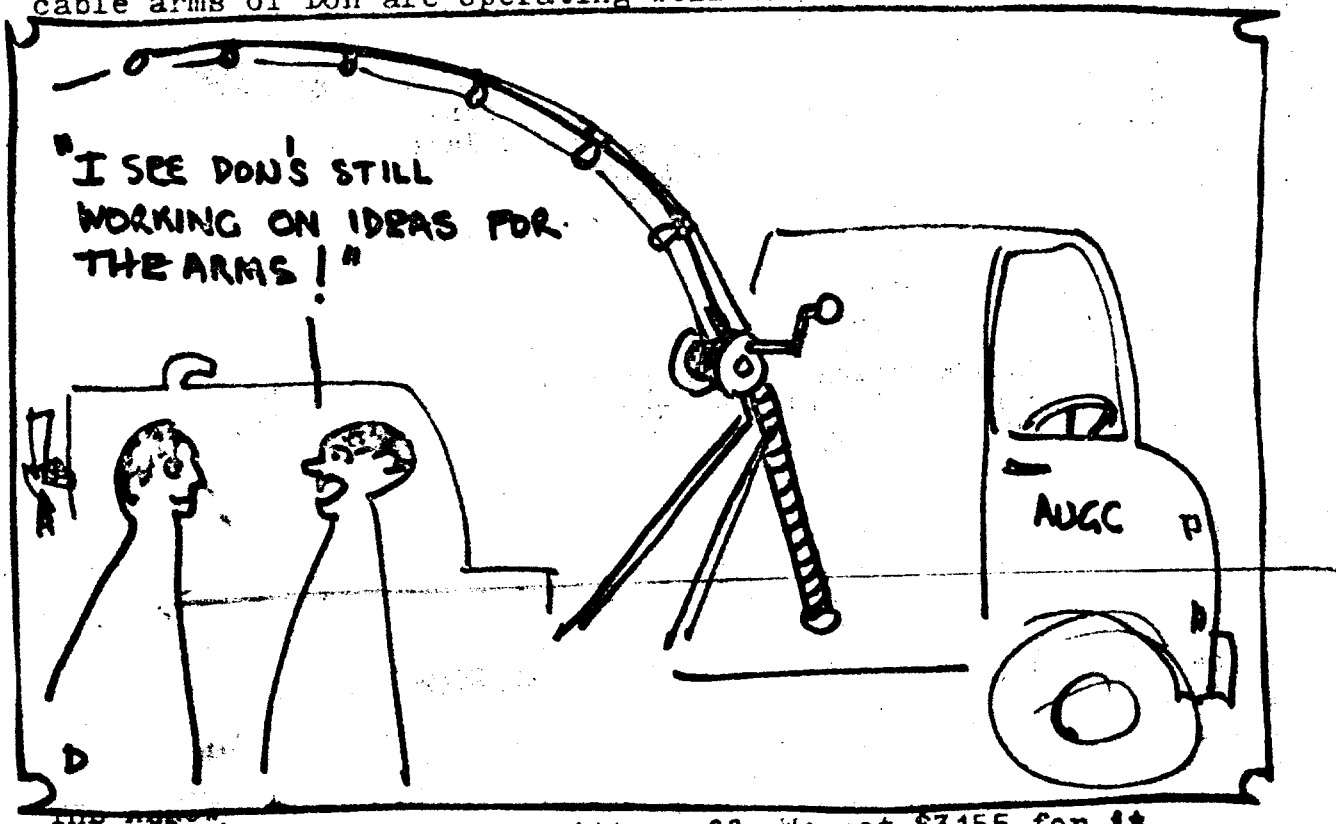
NEWS - NEWS - FROM THE JULY MEETING.

FROM THE C.F.I.

Paddock has been ploughed so landings on runways only.
There is to be a lecture for cross country ratings for solo pilots covering paddock selection, obstacle clearance etc.

WINCH REPORT

Thought to be due to faulty muffler!
cable arms of Don are operating well with minor modification



THE ARROW: Has now been written off. We got $3155 for it.

NEW AIRCRAFT

Financial gymnastics , which make Crick and Watson's formula look like 2+2=4, currently being directed at the possi bility of a second two seater. Gawler has been approached re their K13.

HANG GLIDING

Flinders Uni. micht be joining with us.

MEMBERSHIP

-Affiliate membership limited to 10%.
- Need more undergraduate members
- The $5 membership drive succesfull

CLUBHOUSE

The frames are up. Working bee for this Saturday
(Note from flying org. it is one thing to organize, another to volunteer, yet another to inform the flying org. , and another to actually go- the day was cancelled- not enough to go up.).

PRELIMINARY CONSIDERATION OF THE 'GENERAL AVIATION STUDY' WITH REGARD TO ITS APPLICABILITY TO SPORT AVIATION

Introduction

The Adelaide University Gliding Club is one of the approximately 100 gliding clubs affiliated with the Gliding Federation of Australia. Although its role is principally sporting, ~~through its parent body, under and postgraduate members~~ it has research capability and from time to time prepares reports for use within the sport of soaring.

The 'General Aviation Study' was published in mid 1981 by the federal Department of Transport, with recommendations for new charges on General Aviation for airways and related services provided by the Department of Transport. (no para).

This paper is an initial discussion of the 'General Aviation Study' from the point of view of the soaring community. It does not purport to be exhaustive. It does not purport to understand the needs of the civil aviation sector, the rest of the general aviation industry, or the Department. It does not even purport to understand all the issues the Study raises within the soaring community. However, it hopes to set out the major issues raised by the General Aviation Study.

Recommendations

This paper concludes that the 'General Aviation Study' prepared by the Department of Transport has inadequacies which must be challenged. (no para)

The potential impact on the soaring community by implementation of the recommendations of the Study are high, and must be opposed.

The Gliding Federation of Australia is a small voice in comparison with other general aviation sectors affected. It is necessary for The Federation should form formal links with the Sport Aircraft Association of Australia, and draw in other sport aviation modes to present the true extent of sport aviation in Australia. In particular,

The Gliding Federation of Australia should encourage continued discussion with the Department of Transport, in preference to emotional individual contact with the Department by sections of the sport.

We recommend that the Gliding Federation of Australia forcefully seek that the 'General Aviation Study' be undertaken by independant consultants, and that the perceived inadequacies of the current study be overcome.

Major Issues

This preliminary revue of the 'General Aviation Study' considers that there are potentially 4 areas of dispute with the conduct of the study.

For the time being, we have ignored the 'terms of reference' under which the study was undertaken. We have adopted this approach for two reasons. First, considerable debate took place within government during the establishment of the current terms of reference. Second, as soaring is a small part of the industry under revue, the terms of reference required are not necessarily completely consistent with the expectations of this one sector.

~~We perceive 4 major issues to which the Federation should address itself.~~

1. The study was conducted by an anonymous team within the Department. This ~~has the inadequacy of at a minimum, providing~~ leads to speculation ~~with~~ regarding bias in the study approach, and potential for direction by superiors for the study team reaching particular conclusions.

   In short, the process by which the conclusions were reached can be challenged .

2. The study of the whole general aviation industry was conducted by using traditional civil aviation sub sectors. This approach fails to recognise sport aviation as a distinguishable sector. This leads to several deficiencies. ~~For instance~~, Several aviation sports are overlooked completely, and the approach is therefore simplistic.

   Thus, the definition of the general aviation industry is inadequate.

3. As sport aviation is treated as one of the civil aviation sub sectors, the data is compiled on ~~civil aviations~~ basis appl to avn aviation. We, for instance, fail to see how soaring activity can be calculated in 'passenger miles'; and we suspect this inaccuracy applies also to other general aviation sub sectors. ~~Further,~~ We are unsure whether soaring activity is applied consistently throughout the study along with powered flight. Finally ~~As well~~, social costs and benefits are not adequately measured in consistent terms.

   Thus, the conclusions of the study team can be challenged.

4. This lack of detail data and consistent assessment is visible in the ~~implementation~~ recommendations of the study. On the one hand, sport aviation is seen as requiring grant assistance for the self administration carried out. On the other, the report concludes that charges for airways services should be considered. Finally, the report does not spell out how these charges would be collected from the far more informal administrative processes used in amateur sport as opposed to the professional administration in the general aviation industry.

   Thus, there are serious questions about the practicality and ~~implementability~~ Implementation of the study recommendations.

presented to the Minister for Transport, the Hon. Ralph J. Hunt, M.P.

t by Peter Patroni, Sen. Vice President, Aircraft Owners and Pilots Association.

e major areas that general aviation should consider in relation to this Report –
Transport Australia
General aviation's requirements
Cost distribution and collection.

SPORT AUSTRALIA

at an independent authority, for example the Committee of Review of Government Functions ("Razor gate Transport Australia with a view to increasing efficiency and lowering costs. We are all well aware of the expenditure that could and should be investigated and as a body, we, as pilots, could assist such an enquiry.

stream of paperwork in the form of A.I.P.'s, A.N.O.'s, NOTAMS, A.I.C.'s, V.F.C.'s, I.A.L.'s, T.A.P.'s, lardly a week goes by without some paperwork arriving from the Department. In many cases, a minor radio- change results in numerous pages of amendments. Many amendment sheets are identical to the sheets re- gest that millions of dollars could be saved if these amendments were restricted to once or twice per year. blication of L.J.R.'s and notices of military exercises and restrictions etc. should be borne by the Defence

t of Transport Australia in other forms of activity, including:– Accident investigation of hang gliding, ballooning, parachuting, minimum aeroplanes and gyroplanes.
V.I.P.'s and overseas visitors in Transport Australia aircraft.
aft by officers of the Department when alternative and more economical means of transport are available.
by members of Transport Australia for personal use under the pretence of flying training.
erating cost of Transport Australia's fleet of aircraft and work not directly associated with general aviation, the flight testing of military navigation and landing aids in Australia, Malaysia and Papua New Guinea.
ervices between Defence Department and Transport Australia –
Transport Australia is involved with Australian Development Assistance Bureau and Department of Foreign ts in South East Asia and Central and South Pacific countries, Malaysia, Philippines, Nepal, Indonesia and (22) staff are provided to Papua New Guinea Civil Aviation Agency, for which the P.N.G. Government an average of $3,588 per head per annum, whereas the average salary was close to $14,000 per annum – .3 million).
viation's point of view, the sole purpose for the existence of Transport Australia is "Safety". We do not y other functions it now performs since D.C.A. became D.O.T. and then Transport Australia. They have d in a multiplicity of functions from national energy programs, transport economic activity, approval of mestic air-fares, overseas aid, coastal surveillance, ownership of airports, regulation of rent-a-car conces- f railroads, bridges, highways, shipping, motor vehicle emission controls etc., etc., etc.

ES REQUIRED BY GENERAL AVIATION SECTOR

he only function that Transport Australia is required to perform for general aviation is air safety."
pable of maintaining its own separation at all but a handful of airports. It has been further demonstrated I.F.T. can mix and provide their own separation at many airports, and M.B.Z.'s (mandatory broadcast ite satisfactorily at places so designated.
vices. Unsophisticated low level met. reports with area forecasts and terminal observations would suffice could be made of pilots' actual reports. At present, the aviation sector contributes $12 million towards Met. Bureau, while the Government provides met. services free to all other sectors of the Australian Com-

re a total of 428 navaids provided for aviation in Australia. Many of these are used by international and many others are allocated to the G.A. sector. With the advent of more sophisticated navigation equip- mmercial aircraft (e.g., I.N.S. and Omega), many of these aids will become redundant in the international rs for whom they were originally installed, and the operational and maintenance costs will be allocated it. G.A. generally does not require, nor can it afford, many of these aids which at the present time it may because of their existence.
ia provides 341 marine navigation aids throughout Australia. (In Victoria, the minimal fees paid for boat the Department of Tourism for provision of boat ramps, etc. and no charge is made for the use of

that a V.F.R. aircraft flying below 5,000 ft. on a 'No S.A.R.' basis, is capable of visual navigation and wn separation from other aircraft with no requirement for the services of Transport Australia. The same or international or R.P.T. or I.F.R. passenger carrying flights for whose safety requirements the entire a network was developed.
e. It is claimed that costs should be apportioned for this service. In the U.K. this service is charged for basis. However, S.A.R. insurance is available for a cost of $12 per annum. In 1978/79 the then D.O.T. tion Centre recorded 322 aircraft incidents. In the same year, the Australian Coastal Surveillance Centre .R. incidents; boat owners are not being asked to pay!

$365 G.A. aircraft – This equals $12,515 per aircraft or, on the basis of the G.A. average of 273 hours per year, a cost of $46 per hour. They do admit that it would not be feasible to implement full cost recovery in the short term as any attempt to do so would result in an almost complete cessation of G.A. activity. It is proposed to implement a 34% cost recovery in the short term regulated by the degree of suppression of G.A. activity that can be tolerated.
It is proposed that lump sum A.N.C. charges be supplemented by movement charges, as this method of charging is shown to cause a lesser degree of suppression of G.A. activity than if it were attempted to raise G.A. recovery levels through increases to lump sum A.N.C.'s alone.
They further claim that G.A. usage of government aerodromes and facilities is extensive and an industry survey suggests that G.A. is satisfied with the standard of Commonwealth facilities provided.
"The general conclusion is that there has been an overstatement of the social benefits of G.A." – "On the other hand, significant social costs arising from G.A. operations in respect of airport congestion and aircraft noise were identified."
From the general attitude in this Report, it can be clearly seen that Transport Australia wish to suppress the private and flying training sectors of G.A. in particular. It is their intention to increase the effective charges on flying training and private aircraft use to a much greater extent than commuter and charter operators.
For example, in table 12.6, a Beechcraft A23 or Piper PA28-140 used in flying training at present paying $1,179, will be increased to $4,705 or a 300% increase over five years, whilst in table 12.7, a Cessna 310 in charter category will be increased from $2,948 to $5,523, an 87% increase over the same period. This would make the A.N.C.'s for the A23 or PA28-140 only 15% lower than an IFR twin in the charter category.
Charter and commuter operators would be using many more of the Transport Australia facilities including navaids, air traffic control and primary airports and will be carrying paying passengers for hire and reward over whom this 87% increase will be distributed.
The A23 or PA28-140 will possibly be flown by a student, struggling to secure a career for himself in aviation and being faced with a 300% increase in charges.
In section 3.3.1 under 'Costs', we are informed that aviation fuel accounts for 15% of small fleet total costs and 8% of other operator total costs. On this basis, a PA28-140 consuming 32 litres per hour @ 45c per litre or $14.40 per hour for fuel, as we are told in the Report that fuel represented 8% of the operating cost. The total operating cost would then be $180 per hour?
Clearly there are areas of obvious mistakes in this report.
In section 16.13 under 'Alternative Charging Options', the Committee considered nine separate charging options. Amongst them (Item 2) 'Additional Fuel Levy' was dismissed along with the eight other options as – "No one particular option was shown to be completely satisfactory for all sub-sectors".
But let us consider the 'Fuel Option Levy'.
The stated aim of the Report is to recover costs on the basis of "making the user pay". But who is the user? The user is definitely not the aircraft. Aircraft by themselves, have neither the desire nor the ability to fly. The user to an extent, is the entire Australian community who benefit from having a viable aviation industry. At the very least, the user is the travelling public, the people who use aircraft as a means of getting either themselves or their goods from point A to point B. To that end, they are the users of the services provided by Transport Australia.
The problem then becomes how best to recover costs from these users in a fair and equitable manner, given the varying numbers of passengers and differing freight loads (and combinations of both) and the distance travelled and facilities used.
The one common factor that emerges for all aircraft is FUEL and there is a common denominator over all aircraft on the basis of passenger seat miles per litre. For example –

Boeing 727-200	15.6 seat miles per litre.
Beechcraft A36	15.5 seat miles per litre
Douglas DC9	13.5 seat miles per litre
Cessna 172	12.8 seat miles per litre.
Piper Navajo Chieftain	13.2 seat miles per litre.

Transport Australia already collects $42 million as a fuel tax from aviation. It is therefore possible to abolish direct air navigation charges and use the same method to collect this alternative revenue; a simple matter for the oil companies. (This method is used in New Zealand, where private operators pay a tax of 5c per litre or fuel in lieu of A.N.C.'s).
Operators would pay as they use and costs would be directly related to utilisation.
Transport Australia could decrease, instead of increasing, its staff – further cost saving.
It would also be possible to apply a higher tax on Avtur (Aviation turbine fuel) as jet and turboprop aircraft all operate in the I.F.R. category and, as such, have a higher demand for costly facilities provided specifically for their use at primary airports (i.e., radar, air traffic control, I.L.S., D.M.E., etc.)
In 1978/79, Transport Australia's costs for operation and maintenance at eleven primary and major airports was $70 million.
A tax of 10c per litre placed on Avtur would cost the B727 passenger $3.00 on a trip from Melbourne to Sydney. A 5c per litre tax on avgas applied to a Beechcraft A36, flying 250 hours per annum, would amount to $750 per annum, or $3.00 per aircraft hour.
This tax should also be applied to military aircraft who make no contribution to air navigation costs whilst using an estimated 20% of the facilities. Transport Australia justify this by saying that the military do not charge G.A. for the use of their facilities. However, under Major Airport Costs, Australia Transport 78-79, Transport Australia spent approx. $10 million on Darwin, Townsville and Canberra Airports. In most countries of the world, governments take account of military flying and use of facilities when allocating costs. Under the policy of 'user pays', the military must be included.

Conclusion

In Short

The impression left by the 'General Aviation Study' is that it was carried out by personnel trained in civil aviation processes; who took a simplistic view of the general aviation field; made conclusions about the social value of sub sectors of which they have both an inadequate knowledge and which are each significantly individual; sought to make simplistic conclusions applied to all sub sectors; and failed to reach detailed conclusions capable of implementation.

Detailed questions

Who conducted the study, Who were the senior departmental officers and Why were civil aviation sub sectors adopted.

As part of the sport aviation use of the air, the soaring community represents about 10%. There are also balloonists, hang gliders, aeromodellers, parachutists, kitefliers as well as new sports of man powered and par sail. This is a sizeable community which can not be measured in passenger miles terms.

Sport exists to improve the lifestyle of the community. It is one of the 'rights' expected in our society. As sport is not professional in composition, it does not have 'profits' against which air navigation charges can be measured. Therefore, if increased charges are proposed, and have an affect on general powered flight, its impact in reducing access to amateur sport is much higher. Therefore, significant social disbenefits are caused by charges applied to sport aviation.

Airways services are developed principally for civil aviation, and some sectors of general aviation. Where sport aviation is forced to use airways services, it is principally for the benefit of civil aircraft operations. The charge for these services should be applied therefore to the party to whom they are of benefit.

Sport aviation does not have the capacity to carry equivalent airways equipment to that carried by civil aviation (transponders, radar, radio). Therefore, airspace established to suit civil aviation must interfere with sport aviation operations.

Final comments

This paper is a 'first runthrough' evaluation of the 'General Aviation Study' by a sector of soaring. The comments above imply no particular priority or order. We, the Adelaide University Gliding Club forward these thoughts to the Gliding Federation of Australia in the hope that they may be useful in compiling a formal response to the Department. May you use them or not as you see fit.

Yours sincerely

Senators (write to as many as possible)

Address:

Senator The Hon. R. Bishop
Senator The Hon. J. I. Cavanagh
Senator G. S. Davidson
Senator R. C. Elstob
Senator D. S. Jessop
Senator The Hon. Sir C. L. Laucke
Senator G. T. McLaren
Minister The Hon. A. J. Messner
Senator B. C. Teague
Senator H. W. Young
Senator (Elect) J. Haines

The Senate,
Parliament House,
Canberra ACT 2600

Federal MPs (choose the one for your area)

Address:

House of Representati
Parliament House,
Canberra ACT 2600

District	
Elizabeth area	Dr. N. Blewett, MHR (Bonython)
Morphett Vale, Happy Valley, Trott Park	Mr. G. Chapman, MHR (Kingston)
Riverland, Yorke Peninsula	Mr. G. O'Halloran Giles, MHR (Wakefield)
Mitcham, Unley, Clarendon, Hahndorf	Mr. R. Steele Hall, MHR (Boothby)
Adelaide, St Peters, Valley View, Marden, Walkerville, Gilberton	Mr. C. J. Hurford, MHR (Adelaide)
Millswood, Goodwood, St Marys, Glenelg, Daw Park, Black Forest	Mr. R. Jacobi, MHR (Hawker)
Murray Bridge, the South East	Mr. R. J. Porter, MHR (Barker)
Hindmarsh, West Croydon, Thebarton, Henley Beach	Mr. J. Scott, MHR (Hindmarsh)
Whyalla, Pt Augusta, Eyre Peninsula	Mr. L. Wallis, MHR (Grey)
Norwood, Rostrevor, Magill, Hope Valley, Holden Hill	The Hon. I. B. Wilson, MHR (Sturt
Pt Adelaide, Angle Park, Semaphore, Salisbury, Parafield	Mr. M. Young, MHR (Port Adelaide)

NEXT CLUB MEETING WED. 5th. AUGUS

WOW! - THRILL TO THE C.F.I REPORT
- QUNER TO THE TREASURERS REPORT.
- OR IS IT QUERY THE TREASURERS REPORT?
ANY WAY YOU'LL LAUGH TILL IT HURTS (AND) BELIEVE US IT'LL HURT AT THE NEXT (WAIT FOR IT . . .)

CLUB MEETING

- at a club meeting - no one can hear you scream.

PARTY - A.U.G.C and A.U. Sailing Club
Sat. 8:00pm 22nd August, 10 Vaudoux Cresent, Belvue Heights
B.Y.O.G.

COMING SOON
- GLIDING CAMP - LOCHIEL
- RAT BAG REGATTA - OCTOBER LONG WEEK END

Dear .....

I, the undersigned, petition your assistance.
It is my belief that Transport Australia will wipe out general aviation if it accepts the recommendation of the General Aviation Study (1979) currently under consideration.
The general aviation sector includes a solid voting force of 25,000 pilots. I ask you to fight on my behal to stop Transport Australia destroying general aviation.

THE SITUATION

The term 'General Aviation' covers all flying for private or business reasons other than regular publi transport or the armed services.
The General Aviation Study maintains that the general aviation sector is not paying it's way as regard the costs that Transport Australia incurs on its behalf.
The Study recommends that these "allocated costs" be recovered wholly, or in part, by the introductio of dramatically increased air navigation charges, and by imposing 'movement charges' to all gener aviation take-offs and landings.

OUR BELIEFS

1. The general aviation sector should pay its way fairly.
2. Transport Australia has not correctly identified the costs relevant to general aviation.
3. The cost recovery recommendations of the General Aviation Study are neither equitable nor eff cient.
4. The policy of "user pays" can work equitably and efficiently, and to the benefit of both the com munity at large and general aviation, if the recommendations contained in this petition are followec
5. Transport Australia should undergo immediate analysis by the Committee of Review of Goverr ment Functions to lay bare Transport Australia's monumental and costly inefficiencies.

THE ARGUMENTS

1. The General Aviation Study fails to make clear how it has allocated costs against general aviation. I believe that a substantial portion of the costs the Study allocates to general aviation relate to –
   (a) regular public transport only.
   (b) services never or hardly ever used by general aviation (e.g., runways, firefighting equipmen terminals designed to accommodate large passenger aircraft).
   (c) the armed services.
   (d) overseas aid developments irrelevant to the general aviation sector.
   (e) bureaucratic inefficiencies within Transport Australia.

   These costs should not be applied to general aviation.
2. The current Air Navigation Charges average out at around **$800 to $900 p.a.** per aircraft. The pr posed increase would lift charges to around **$12,515 p.a.** per aircraft. This burden will crush a lar proportion of general aviation. They will cease to be – and so will their use to the community.
   If, however, these proposed increases were not levied against the aircraft, but against the real "user the person or persons on board, general aviation has a chance of survival.
   I believe that the user should pay and I believe that this is readily achievable by the introduction a fuel levy at point of sale of aviation fuel. This way, those who do the most flying, and thus u the most services, pay the most. "The user pays."
   Transport Australia will not need to further increase its already high staff levels, as would certain have been the case if the General Aviation Study recommendations were accepted.
3. Transport Australia is grossly overstaffed. A simple comparison with the equivalent governme body in the U.S.A. speaks for itself.
   Transport Australia employs in excess of **two people for every registered aircraft.**
   Transport Australia not only wants to increase its monstrous inefficiencies, but also get the gener aviation sector to pay for them.
   I suggest that the "Razor Gang" should look at Transport Australia without delay.

YOUR ASSISTANCE

The General Aviation Study recommendations must be stopped if general aviation is to survive.
Please help us. We are fighting for our lives.

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