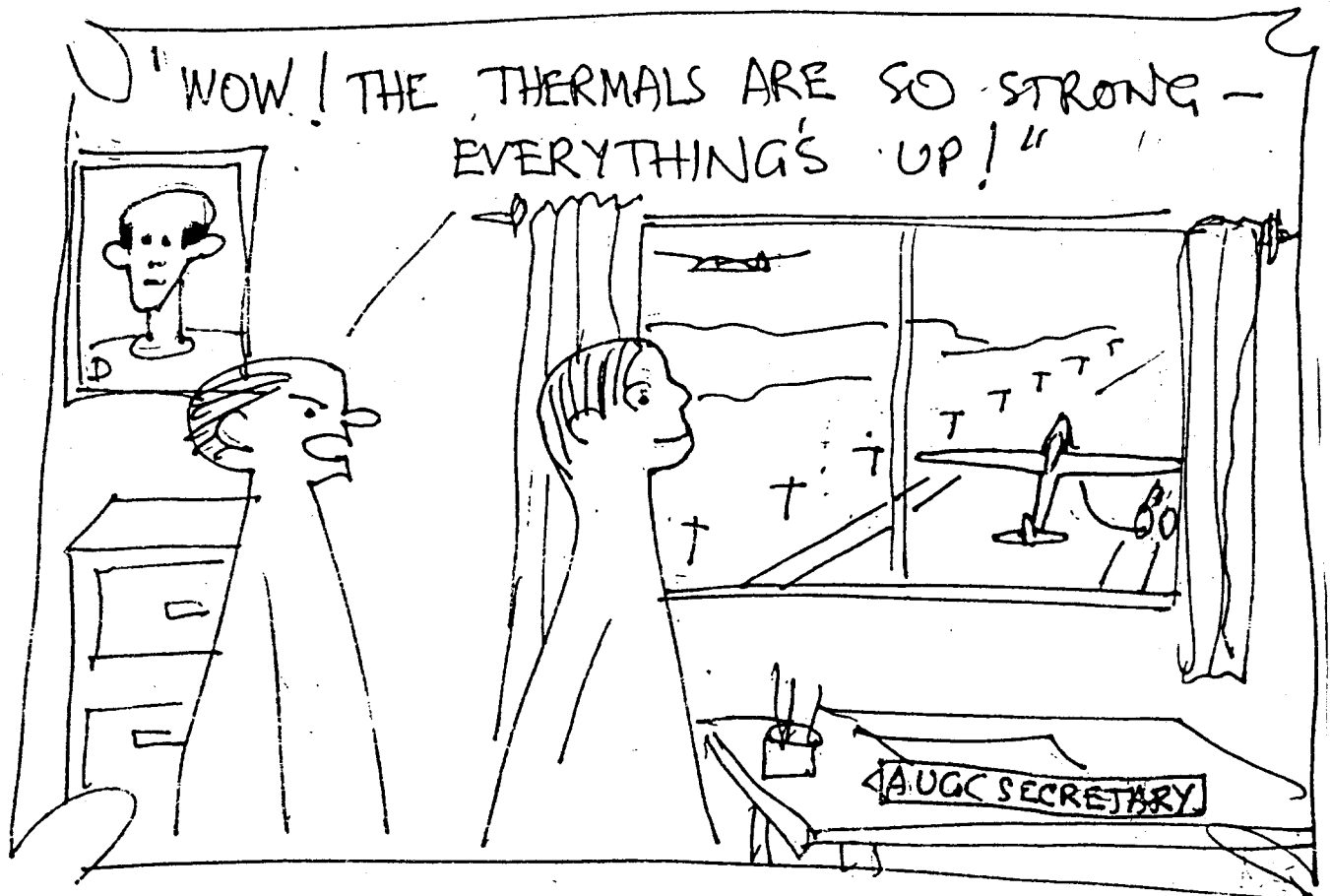


Uni Gliding

Volume 15, Issue 9

October, 1990



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An official publication of The Adelaide University Gliding Club Inc.

President's Report

Gosh, hasn't a lot happened in the last month, both for the club and individuals. To begin with we attended two regattas in September/October. The Brewster Regatta was held at Monarto and was well attended by our and other clubs. We had flying during the day and talks in the evening, and at the end, the Boomerang PN won the award for "Best Presented Glider".

Next week we rolled up to Balaklava Gliding Club for the Whitwarta Regatta. This was also a great success for the club (I certainly thought so, but I'll leave it to less biased sorts to report on that).

We also hosted a talk by the National Coach, Mike Valentine. Mike gave a very interesting talk on "Pilot Preparedness and Awareness" and prompted some very useful discussion.

There has been lots of action on the ratings and badges front too. Congratulations are due to (and I hope I haven't forgotten anyone here), **Andrew Huggins** and **Gary Hill** for going solo, **Terry Gould** and **David Hulse** for passing outlanding checks, **Gary Hollands** for his first solo outlanding, **Peter Temple** for being upgraded to a Qualified Flying Instructor and **Jaeson Hollands** who got his 'B' badge with 90 minutes on the ridge. Well done everybody.

Meanwhile, work continues unabated. The rainwater tank, put up last month, was just in time to catch late winter rains and is almost completely full. Engineer superstar, **David Conway**, has connected the water pump and hot water service and now the shower looks like it is trying out for a Rheem ad. And the new windsock was installed this week by the 'midnight erection team' lead by **Dennis Medlow**. The latest in the endless stream of "Form 2" work is the Libelle which is currently at West Beach. So if you think you'll want to fly it some time in the coming year then get down there and help out. We work Monday to Thursday nights.

Around the clubhouse there's good news and bad news. Whats the good news? The mouse problem has gone. Whats the bad news? They were eaten by the snakes. (We got one brown snake when it adopted the 'if I can't see them, they can't see me' approach and hid it's head under a log leaving it's body exposed, allowing **David Conway** to kill it with his .22. But watch out, we think there are others. So thongs may be out until we can get the grass cut around the clubhouse.

The long grass on the strips will hopefully be able to be cut soon. This will reduce the current (very real) risk of a ground loop in cross-winds. Meanwhile, be careful!

Good luck to you all with your exams!

Peter Cassidy,
El Prez.

Club News

Recent Events

During October, the Adelaide Hills Soaring Group held its annual Brewster Regatta. This was basically a friendly glider pilot get-together with no competition flying organized. Our club took the Bocian while other private syndicates took the Libelle (GTX) and the Boomerang (GPN). Weather was good on all days except of course the day that Michael Texler turned up (Sunday). During the course of the weekend, a competition was held for the "Best Presented Glider". This was won by the private **Boomerang (GPN) syndicate**. Congratulations to them! One member of the Boomerang syndicate, **Terry Gould**, successfully completed his outlanding check on the Sunday. Well done Terry!

While on the subject of congratulations, **Andrew Huggins** was elevated to Solo status during the Cross Country flying camp held recently. Andrew has also been appointed as the Fifth Executive Member.

Following the Brewster Regatta was the Whitwarta Regatta which is an annual competitive flying event held by the Balaklava Gliding Club. Our club members attended in force and performed very well in competition. A separate report on this is presented later. During the regatta, I was able to fly the Bocian cross country with Cathy Conway. This was my first ever cross country flight. I was able to finish off my Cross Country Rating on this flight.

At O'Week over the past few years, **Emilis Prelgauskas** who is the owner of the Adelaide Hills Soaring Group, lends us his Blanik twin seater glider for flying all of our enthusiastic new members. In return for this favour, our club sent the Bocian up to his field at Monarto South to support the passenger day he was holding. Two of our pilots, **Cathy Conway** and **Michael Texler**, went to help out with the flying of the passengers. Unfortunately, the wind was much too strong and the Bocian did not fly.

General News

Lately I have not been able to go gliding due to University commitments (ie. exams). However this has not stopped others and in fact we have had two more pilots reaching solo status recently. Firstly, **Matthew Tippett** has converted to winch launching. Matthew came and joined our club after going solo at a club which supported only Aerotow. Secondly, **Gary Hill** who has been training for a while, but quite infrequently, has been coming up regularly in the last few weeks and managed to reach solo status. Well done to both of these new pilots! It is fantastic to see so many trainees going solo of late and I hope that we will see a lot more to come.

Our CFI **Redmond Quinn** and it seems, part time conservationist, has planted four trees around the clubhouse. This is all part of the plan to landscape around the clubhouse making it much more attractive. These trees will need to be watered each weekend.

Summer is coming up and we have already found a snake which is actually quite unusual. As a result of an environmentally conscious decision by **David Conway**, it's lifetime was suddenly shortened. There may be more around so watch out when walking around near the clubhouse, especially in the long grass.

Following the extensive repairs to our twin seater trailer after it blew up on top of our T-hangar in some very strong winds, only a couple of things remain to be done. It needs to have the internal fittings completed and some flashing done on the roof. **David Teagle** is spending a fair bit of time doing this and it would be nice if some people could give him a hand, so give him a call if you can help any time.

Club News

At an executive meeting a few months ago, a list of outstanding maintenance was made and people volunteered to do the items on that list. So far the bathroom door lock has been fixed. The gutters have been put back up which meant that the rainwater tank could be attached to them while sitting on its brand new stand. The plumbing and the hot water service mentioned before have also been completed. Thankyou to all the people involved in the above activities.

Three of our pilots were promoted to Assistant Flying Instructors last year. Now, Peter Temple has been promoted further to a Qualified Flying Instructor. The other two, Cathy Conway and David Teagle will be undergoing a conversion test this weekend. Good Luck!

Operations

Our airfield is currently surrounded by a wheat crop and there is some long grass around at the strip ends and sides. This is causing some operational problems. **KEEP WELL CLEAR OF IT!**

When flying aircraft, if the crop or grass is going to cause a problem on launch then **RELEASE THE CABLE**. If a ground loop appears likely then apply **FULL FORWARD STICK** and **FULL OPPOSITE RUDDER**. The tail should lift off the ground and the secondary effect of rudder should pick the dropping wing up. Please keep this in mind as we have already had one ground loop because of the long grass. Luckily nothing was damaged but we would hate to damage anything so be careful!

Launches and landings should be done straight down the middle of the strip. (ie. none of this drifting off to one side nonsense). Beware of the winch cable dragging the aircraft towards the side of the strip.

Airworthiness

The Bocian has come back from its annual inspection and we now have both twin seaters operational again. Thankyou to all those people that bothered to come down for one or two nights to help complete the job.

Unfortunately at the moment we have no single seaters in an airworthy condition. The Arrow is in the finishing stages of the repair to its wing after being hit by an eagle. That repair should be completed by the time you read this. I would like to thank Cathy Conway for spending a lot of time on this repair. Without her effort and I might add, skill in wood repair, the Arrow might just still be sitting there with a hole in its wing.

The Libelle is down at West Beach undergoing its annual inspection. Since this is the first inspection we have done on it since we bought it earlier this year, there is a lot to be taken apart and looked at. During the inspection we were looking at the undercart doors on the Libelle. There are a fair few grunge marks which look like "hangar dolly rash". Be careful of the undercart doors with the hangar dolly when moving the gliders in and out of the hangar.

Straight after the Libelle is finished at West Beach, the Arrow will be out for its annual inspection. There will be plenty of work down at West Beach for the next few weeks.

If you can help, and all you have to do is spend one or two nights there performing difficult tasks like undoing bolts, give Redmond Quinn or David Conway a ring (phone numbers on back page).

Club News

Winches

Quite often the new winch is driven into the hangar and the arms are tied back up so it fits in properly. People that are driving the winch out in the mornings are sometimes forgetting to untie the arms. This is bad because the counter weights are very close to the ground in this position and they can drag in the dirt. **MAKE SURE YOU UNTIE THE ARMS BEFORE DRIVING!**

The brakes on the front left wheel of the new winch have been replaced. This cost \$100. The right hand side wheel will also need to be done soon as the brakes are now a bit uneven.

When DI'ing the winch each morning there is a lot more to check than just the oil and water. Amongst other things, you should check that the Dayglo traces on the cable ends are secured effectively. This means that they have ample cable tying them in place and that this cable is not about to break. Also, the length of the traces should be generous. This will make it easier to find the cable ends in the crop after a launch failure.

At the winch end of a glider launch, drivers should be aware that the cable can break at any time. If this happens, keep your eye on the dayglo and pick a landmark on the horizon in line with where it lands. This will also make locating cable ends much easier.

Clubhouse

If you haven't been up to Lochiel recently, you will be in for a shock when you get there. The clubhouse has been given a "Spring Clean" by Sue Hollands. A big thankyou to Sue for spending so much time doing this! To everybody else: **KEEP IT TIDY!** Don't leave your dirty dishes or rubbish lying around, clean it up as you use it!

Just a small reminder: The "Deli" service that the clubhouse provides is an honour system. This means that if you take something then it is up to you to pay for it. If you don't you are hurting your own club. Also, when staying overnight, there is a \$2 fee. This is basically just to cover the costs of running the clubhouse for your ultimate benefit.

A new hot water service has also been installed. This was done by David Conway. Bradley Gould was trying out the improvement to the shower one morning. Obviously the new hot water service was so good that he had to coaxed out with a well aimed fire extinguisher.

Club Dinner

After the University Exams are over we will be holding a Dinner. This will be on Tuesday the 27th of November. It will be at "Jambalayas" which is at 175 Greenhill Road, Parkside. Come along for a fun-filled night of food, wine and awards. Anybody who's anybody turns up to club dinners. If you are anybody then give Agata Jarbin a call.

Club News

Miscellaneous Notices

During mid-January, the National Sport Class Competition will be held at Mildura. If you want to fly one of the club's gliders at this event then ring Bradley Gould. Currently the Libelle and the Arrow are thought to be going.

The club owns three RED parachutes. Currently it knows the whereabouts of two of them. If anybody knows where the third RED PARACHUTE is then please let any of our club members know.

After bringing the Libelle back from the Whitwarta regatta, somebody attached the tailplane during rigging and did up the little hex nut that holds it in place far too tight. As a result, the bolt sheared when it had to be derigged to go back to Adelaide for its Annual inspection. This nut only has to be done up so that it is slightly more than finger tight. Please take care!

Action List

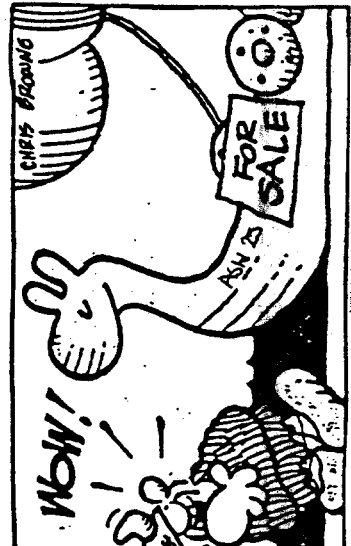
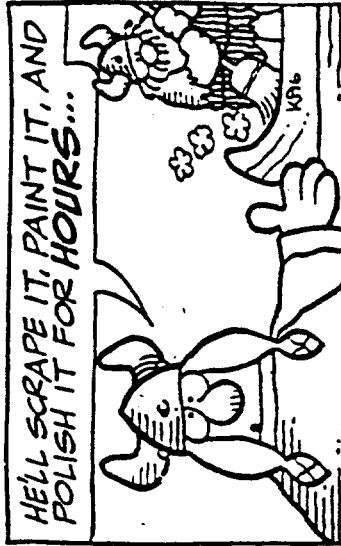
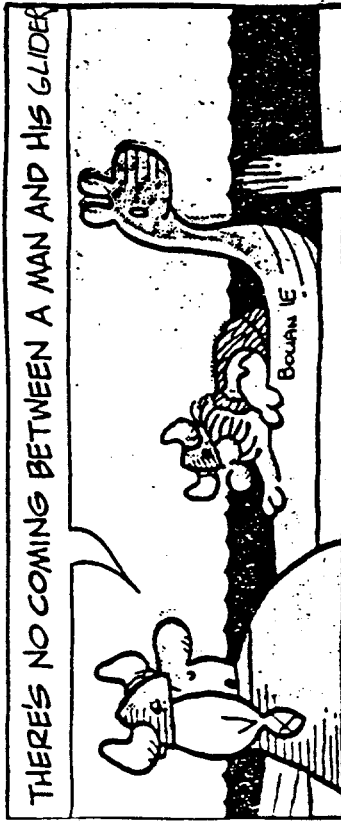
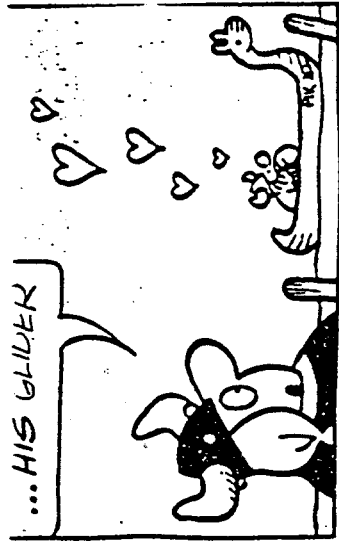
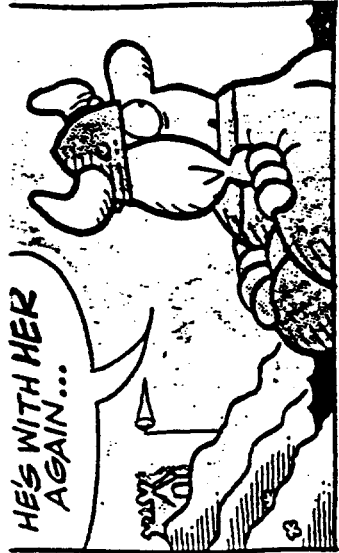
The following things will need an eager volunteer to attend to them. Remember that if nobody volunteers to do these things, then the club suffers and people are volunteered by the executive. So please make an effort to do something.

- Arrange to acquire a new tyre rim for the "Blue House".
- "Blue House" internal fittings and roof flashing need to be completed.
- Redmond's light pole needs to be prepared so that one day it can be erected.
- The Pie Cart could do with a team of people to renovate it.
- Spare cable traces and weak links need to be made for the winches.

If you are interested in any of the above and don't know exactly what needs to be done, give someone who does know, a call.

Regards,
David Hulse

A Cartoon



The Whitwarta Regatta

On the long weekend in October (6th-8th) the Balaklava Gliding Club hosted a regatta, held at the Whitwarta airfield, ten kilometres north of Balaklava. Our Club sent four of its aircraft, the Bocian trainer, and the Standard Libelle, and two private aircraft, TX the other Standard Libelle, and PN, a Boomerang.

Day One dawned with 10 knot easterlies, and a reasonable forecast. David Hulse was to go with Cathy Conway in the Bocian, in Sports Class, on his first cross country to Whitwarta - Red Hill - Blythe - Whitwarta (134 km), with the Boomerang flown by Gary Hollands doing the same task. Peter Cassidy flew his Libelle around the Standard Class task Whitwarta - Crystal Brook - Spalding - Whitwarta (193 km). David Hulse outlanded at 10 km short of Blythe, gaining his Cross Country Rating. Gary Hollands outlanded 14 km short of the airfield, and won Sports Class that day (he was the only single seater in that class). Peter Cassidy got round the standard class task and eventually won due to a technicality. John McFarlane went around the task faster in Adelaide Soaring Club's Discus, but due to a camera problem, (he could not prove he got around the task), he could not claim the trophy. The Bocian was retrieved and the crew got back to the airfield at 8 pm, just after tea had finished.

Day Two looked about the same, with the thermals predicted to go to 5000 feet, at a strength of 4-7 knots. After a quick trip to Lochiel the night before, and derigging the Libelle CY in the dark, I and a few others slept over. Returning the next day to Balaklava I had to rig the Libelle, and remove the seat to try to find the allen key that is used to attach the elevator. Someone had lost it some time beforehand, and the aircraft could not fly until it had been checked to ensure that nothing was fouling the controls. This is very important. **IF YOU LOOSE SOMETHING AND IT COULD BE IN A GLIDER - TELL SOMEONE.** The tasks for that day were, Standard Class: Whitwarta - Hoyleton - Crystal Brook - Whitwarta (185 km), 15m Class: Whitwarta - Hoyleton - Jamestown - Whitwarta (235 km), Sports Class: Whitwarta - Hoyleton - Snowtown - Whitwarta (97 km).

Cathy Conway flew her Libelle TX to Hoyleton and turned back, with almost all of the competitors doing the same. Steven Gould and Steve Were were in the Bocian, and needed a relight and then outlanded 10 km away from the airfield (on the way out). I was in the Libelle and got to Hoyleton and pressed on to Crystal Brook, I also didn't have a radio, so I could not hear everyone turning back. I got to Red Hill and then decided to turn back, and outlanded at Bumbunga, just by the Lochiel lake, but the other side from the airfield.

Peter Temple in the Boomerang didn't do much better than the Bocian into a strong headwind. He outlanded 5 km out of Hoyleton on his way to Snowtown. That night, Mike Hancy gave a very interesting talk on "The Interaction of Thermals and Wave" that was appreciated by all.

The public holiday on Monday was called off. During the night it had rained quite heavily and it was cold, with very little thermal activity and a cloudbase of only a few thousand feet. Nearly everyone went home, and the only flying was giving Air Training Corp students winch conversions. The Libelle was to be flown back to Lochiel but it was given away when David Teagle could not get away, let alone go cross country.

All in all it was a very successful weekend, as the newer pilots learned something, and got their cross country ratings and the more experienced pilots got a taste of competition flying.

Bradley Gould

A First Course in Winch Analysis

Part I: Winch Theory -- A quantitative Approach.

ABSTRACT

Following Mr. Conway's article [1], we attempt to quantify some of the propositions made in that text.

INTRODUCTION

The Conway Model of Winch Analysis [1] proposes that a Winch consists of N discrete mission-critical components C_1, \dots, C_N each having a Serviceability Factor S_i such that $0 \leq S_i \leq 1$. A value of 0 representing a state of complete unavailability, and a value of 1 indicating perfect working order. Conway proposes that the state of a Winch may be summarized as an unweighted average of these Serviceability Factors, i.e.

$$F = \frac{\sum_{i=1}^N S_i}{N}$$

ASSUMPTIONS

We propose that C_1, \dots, C_N may be regarded as random variables having a continuous distribution over the real numbers in the range 0 to 1. Theory does not suggest a distribution [2] but empirical considerations lead us to propose a triangular distribution, i.e. having probability density function

$$f_i(z) = 2(1-z)$$

This distribution was chosen because it exhibits characteristics which model well the real-life behaviour of mission-critical components, with values towards 0 being much more common than values towards 1. The mean of this distribution is one-third, which although claimed by some to be too optimistic [3], is suitable for our model.

WINCH AXIOMS

There are a number of self evident truths which can be applied to Winch Theory, which can be used to analyse the dynamic nature of Winches, as follows:

[A1] The probability of a cable break is inversely proportional to the number of remaining minutes of daylight, asymptoting to 1 at dusk.

[A2] The topological result of a cable with both ends fixed being unable to be knotted does not apply in Winch Theory.

[A3] On any given weekend there will exist a winch component C_i such that $S_i=0$ and $\Pr(\text{the component is able to be purchased within a 200km radius})=0$ also. [4]

A First Course in Winch Analysis

[A4] S_1, \dots, S_N are not independently distributed. [1]

THEORY

Our goal in this article is to derive the distribution of F mentioned above. A simple, but naive approach is to proceed in defiance of axiom [A4], i.e. to assume that S_1, \dots, S_N are independently and identically distributed. This would imply that the expected, or mean value of F , $E[F]$, is one third which is clearly unreasonable. Laboratory tests have shown conclusively that $E[F]$ is no greater than 0.1 [5] To explain this apparent discrepancy it is necessary to take quantum theory into account. Cassidy's model [6] suggests that the state of a component can be expressed as a time-varying waveform, whose effect is not only on that component, but also to all other components according to an inverse-square law. A component C_i whose serviceability factor S_i nears or equals 1 naturally has a waveform of increased energy, and as a result its effect on other components is heightened. Destructive interference is the ultimate result of interactions between waveforms [7] and so another component's S value becomes zero. This explains that apparently counter-intuitive macroscopic result purported by Conway [1] that the act of replacing a faulty component immediately renders another one useless.

IMPLICATIONS

This result has widespread implications in the field of insurance risk assessing. Since the act of replacing one component immediately renders another useless, this results in an endless chain of component replacement, seemingly without end. Should a winch ever be insured, as soon as one component breaks and is claimed for on insurance, another is sure to be broken in the near future with probability approaching 1. The loss/risk factor in this instance is weighted against the insurance company's favour, and their legal liability in such an instance is uncertain. [8]

CONCLUSIONS

This result is evidence in favour of the infamous Conway Proposition: "If it works, leave it alone". Since the replacement of a component inevitably breaks another, this seems like good policy.

Due to the inherently unpredictable nature of the component waveforms [2] we conclude that it is impossible to derive the distribution of F beyond the macroscopic observation that $F < 1$ always. Since everyone knows winches never work anyway, this is hardly hot news.

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- [1]: D. Conway: "A Theory on Winch Serviceability"; The Journal of Uni Gliding, September 1990
- [2]: M. Texler: "The Heisenberg Uncertainty Principle as Applied to Winch Theory - Winch Action May Not Be Predicted"; The Quantum Brain Surgeon, March 1989
- [3]: R. Quinn: "A statistical analysis of repeated winch failures - successful launches optimized at 1 in 10"; Winch Safety Digest, Summer 1944.
- [4]: M. Nicholls: "The Purchaser-Vendor Economic Model as applied to Winch Components"; Economic Applications Monthly, August 1986
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[6]: P. Cassidy: "*Quantum applications in remote Winch Destruction*"; Journal of Advanced Weaponry [Classified]

[7]: V. Weddle: "*Component waveforms cannot be in phase*"; The Quantum Cake Bakers Journal, February 1983

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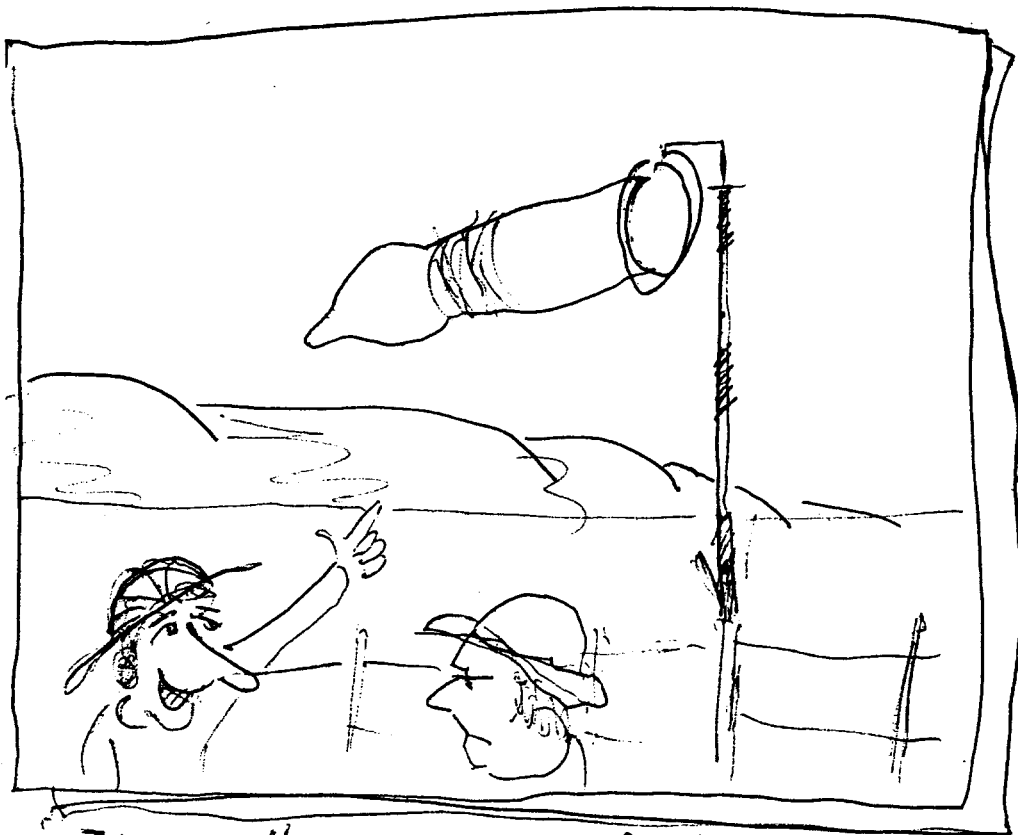
CREDITS

This document may be referenced as:

"Winch Theory -- A quantitative approach"

D. Smith & D. Hulse: A first course in winch Analysis [1st ed.], AU Sports Association Press, 1990

Enjoy!,
The Editors



It's all part of Redmond's
safe flying campaign"

TEX 17 Oct 90

Information

Club Contact Numbers

President	Peter Cassidy	356 3382
Secretary	Bradley Gould	381 2072
Treasurer	Terry Gould	381 2072
Social Convenor	Agata Jarbin	336 8131
Fifth Member	Andrew Huggins	340 2775
Club Contact	Matthew Nicholls	297 0078
Newsletter Editors	David Hulse David Smith	31 3312 264 6733
Chief Flying Instructor	Redmond Quinn Lochiel Airfield	344 5331 (088) 26 2203

So you want to fly this weekend?

Then ring the club contact person between 8:00 pm and 10:00 pm on Thursday nights, so that he can organise car pools, instructors etc. Meet at the Caltex service station on Port Wakefield Road, Bolivar (just past the White Horse Inn and the caravan park, on the left) at 7:30 am. Or if you can't get transport that far, meet at the Uni footbridge at 7:00 am. Someone should arrive to pick you up before 7:15 am, if you have rung the contact person to tell him that you will be there.

Calendar

What	When	Where
General Meeting <i>Come along and find out what's going on in the club!</i>		Jerry Portus Room
Executive Meeting <i>This is your chance to find out what happens behind the scenes.</i>		To be announced
Club Dinner <i>Ring Agata Jarbin soon if you wish to attend!</i>	Tuesday, 27th November	Jambalayas Restaurant