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Darling Downs Soaring Club

CHAOTIC NEWSLETTER OF THE DDSC

JANUARY 2013

Editor Leon Moran leonrmoran@yahoo.com.au Ph 07 3261 3902

Hi There

My name is Leon Moran I have chosen to take on the role of editor of the Darling Downs Soaring Club newsletter "Chaotic". I use the word Editor sparingly as I have no experience or qualifications, I have no tertiary education I even failed year 12 English.

What I would like to do for each newsletter is frame a series of questions to ask club members so we know a bit about each other so I will start with myself.



Me at an Easter comp

Q1 How did you get into gliding?

I knew I wanted to do it as a kid no assistance or joeyglide back then so I had to wait until I could afford it which was after I finished training in the Navy.

Q2 When did you start gliding?

28 August 1980 with the Royal Australian Navy Gliding Association (RANGA) it was my first weekend off after I finished my training.

Q3 How Many Hours/flights do you have in gliding.

I am rapidly approaching 500 hours and some 600 flights. If that does not seem much since 1980 you would be right. This is because I have learned to fly light aircraft and have had to give up flying twice once to raise a family where I took about 10 years off and once to own and sail a Yacht another 6 or 7 years off here.

Q4 What Badges/goals have you attained?

I have my Silver "C" and have the distance and duration for my Gold "C" just need a day good enough to get my height gain.

Q5 What sort of competition history do you have?

Competed in 1997/98/99 inter-service comps at Leeton NSW no results good enough to publish. I am entered in the Easter comp this year will see how we go.

Q6 What is your longest flight length distance and time.

My longest declared flight is 358 kms and I have done several similar or slightly longer. My next goal is 400 k and I plan to do a 500 when I get the right day. I have stayed aloft with Barry Daniel in our clubs Duo for 7 hours and 15 minutes over about 520 kms.

Q7 Any good out-landing stories?

Not really I have gotten lunch on several occasions and have had an irate farmer on one occasion and no one home as well so a good mix. The retrieve of recollection was when the crew bogged my car on the way to get me. The bogging occurred while using an ipad to navigate to me taking them down a



dirt road with a filled in creek through it. The real story is that they could have gotten to me on the bitumen thanks apple for the ipad.

Q8 What do (or did if retired) you do for a living and afford the sport of gliding?

I am an Aircraft Maintenance Engineer have been since leaving school. I did try and get into IT after leaving the Defence Forces however could not get employment after the millennium bug debacle and went back into aircraft engineering.

Q9 Any advice for the future?

Keep going! I saw an apparent Confucian saying the other day it said that it does not matter how slow you go just as long as you don't stop. So just keep at it and you will go further faster. Any suggestions for questions to ask are welcome so just send them to me.

From The CFI

G'Day All,

It's almost that time of the year when the Easter Comps are upon us again.

This year it's at Goondiwindi where the fields are huge and the airspace is not limited by Oakey or air traffic from the mines. I was driving down that way during the week.

I have attached a part of the website for your information, however type in "2013 Easter Comps" into Google and it will take you to the website.

As you can see the pilot requirements are not strenuous and taking a Puchacz and sharing it, or taking a club single seater and either sharing it or flying it for the week by yourself is not a complex problem if you can organise a group. There are already 7 DDSC aircraft going, so there will be plenty of people to help you if you need it.

This Comp is a great way to get into competition flying and is very relaxed and friendly.

For those private pilots thinking about it, it's a great opportunity to fly at a different site over new country that we don't generally fly over from DDSC on most days.

For all, pls remember that you need to have a Competitors Licence to compete as PIC. The Application has to be signed by me and then sent to Beryl Hartley at Narromine, so pls don't leave it to the last minute.

You'll also need to ensure that your annual check flight is valid and that the parachute that you intend to use is not due to be repacked and that both dates will cover you until the end of the comp..

Attachment:

GLIDING QUEENSLAND 2013 EASTER COMPETITION

GOONDIWINDI AERODROME 29TH MARCH 6TH APRIL 2013

General Information

The Gliding Queensland 2013 Easter competition is scheduled for Friday 29th March 2013 to Saturday 6th April 2013. Practice day is Friday 29th March with the first day of competition on Saturday 30th March.

As in past years, this competition provides an opportunity for pilots of all experience levels to compete in a friendly and social setting. Our aim is to run a competition that is fun, safe and friendly and we will try to provide challenging competition to everyone from the novice to the experienced. To this end, assigned area tasks will be the norm in two classes - Sports and Club class.

The winners of each class will be selected by their best three days scores over the competition period. Pilots sharing a glider may be eligible to win their respective class without competing every day and there will be no requirement to declare lay-days.

This will be a GFA endorsed competition and therefore covered by GFA insurance, and will be limited to a maximum of 50 gliders. This means that all pilots in command must have a competition licence and all aircraft must be covered by a minimum of \$1m third party liability cover which includes the standard GFA competition endorsement.

Location - Goondiwindi Airport

From Brisbane travel via the Cunningham Highway over Cunningham's Gap and through Warwick and Inglewood to Goondiwindi. The airport is on your right on the outskirts of town as you approach from the east (Brisbane).

An alternative route via Toowoomba (Warrego Highway), then through Pittsworth and Millmerran (Gore Highway) brings you into Goondiwindi from the north. As you approach the town, turn left into Boundary Road and left again at the T-intersection with Cunningham Highway (just past the showgrounds). You are heading out of Goondiwindi now - the turn-off into the airport is on your left about 1 km further out of town.

Accommodation

There is no accommodation available on the airport at Goondiwindi, however there are numerous options in the township.

The Goondiwindi Regional Council website (www.goondiwindi.qld.gov.au) provides a list under "Visitors" of "Where to Stay".

Gundy Star Tourist Park (www.gundystar.com.au) and Goondiwindi Tourist Park (www.goondiwinditouristpark.com.au) are close to the airport.

Registration and Expressions of Interest

Registration is available from now until the practice day on Friday 29th March, 2013. The form can be accessed here <http://www.warwickgliding.org.au/eastercomps/registration.html> This form is to be used for expressions of interest, with confirmation and payment closer to the event.

Costs

- Entry fee of \$250 per aircraft if received before 1st March 2013
- Entries from 1st March onward - \$300
- Juniors (under 25 years) and club aircraft being used to introduce newer pilots to comps have reduced entry fee of \$150.
- Tows - \$55

Eligibility

Pilot requirements

Solo pilots, whether in a single or two-seater, must meet the following.

For two-seaters flown with two pilots, at least one of the pilots must meet the following. The only requirement for the second pilot in a two-seater is that they must be a current GFA member.

1. GFA member
2. At least 20 hours solo
3. Silver C distance
4. Minimum of 10 aero tows
5. Current flying practice
6. Annual flight review checked and log book entry made within 12 months of the 1st competition day
7. FAI competition licence
8. CFI recommendation via Pilot Declaration Form if this is your first competition
9. Knowledge of rules of the air
10. GFA membership card, FAI competition licence and log book showing both annual flight review and current flying practice must be produced at registration.

Aircraft requirements

1. Current maintenance release
2. Parachute with current packing slip
3. Liability insurance of at least \$1 million

Maintenance release, parachute packing slip and proof of insurance to be shown at registration.

FLARMS and Radios are mandatory.

Contact us

Les Milne 0407 986 142 or Phil Southgate 0419 264 713 or email: eastercomps@warwickgliding.org.au

Entries so far:

Name	Glider	Type	Club	Pilot 2
Greg Schmidt	KDX	Duo Discus X	KSC	Nev Donald
Phillip Southgate	GKJ	Hornet	Warwick	
Peter Trotter	PNL	LS8	Kingaroy Soaring Club	
Lisa Trotter	IIC	ASW20A	Kingaroy Soaring Club	
Brian DuRieu	GLQ	LS10st	KSC	
Les Milne	VH-GOP	Standard Cirrus	Warwick	
Andres Mramontes	VH-GWR	LS1-f	Warwick	

Michael Ridge	VH-GDS	ASW20	Boonah	
Laurence Simpkins	GMO	Cirrus 18m	Warwick	
Erich Wittstock	VH-WGQ	PW6-U	Warwick	Dan Atkinson
Dan Papacek	VH-ZDZ	SZD 55-1	Warwick Gliding Club	Clyde Stubbs
Ralph Henderson	VH-JSR	Duo Discus T	DDSC	
RAY PARKER	VH-NNA	Ventus 2cx 18mtr	GYMPIE	Owen Morgan
Richard Hoskings	VH GKO	ASW20C	DDSC	
Kerrie Claffey	VH-GTC	ASW28	Airwing	
Tom Claffey	VH-xxx	ASG29	Airwing	
David Nash	VH-XQW	Discus B	DDSC	
Frances Ning	VH KYF	ASW20	Darling Downs Soaring Club	
Leon Moran	VH-FQL	Nimbus 2C	DDSC	
Jenny Thompson	VH-ZJT	ASW27B	DDSC	
Stewart Campbell	VH-ZAJ	Hph 304 wasp	Boonah	
Stewart Campbell	VH-ZAJ	Hph 304 wasp	Boonah	
geoff pratt	xoy	pik20e	d.d.s.c.	
Matthew Atkinson	VH-NSO	Discus 2B	Lake Keepit	
Chris Woolley	VCX	Ventus 2cxM	Kingaroy Soaring Club	

cheers

Denis Lambert CFI DDSC 0449195068

An article on Batteries by Chad

Boosting Battery Life in Gliders

By Chad Nowak

After recent talks about batteries in gliders and getting most out of the avionics electrics I thought I'd write down some of the basic keys to extending the life of an avionics electrical system. There are minimum requirements with regards to airworthiness and certain ratings required to do some of the work mentioned below but I will leave that alone and concentrate on increasing the performance of the system in this article.

Before I go any further I just want to note that I don't claim to be an electronics expert, rather someone who has had a reasonable amount of time working with wiring to understand the basics and how to improve an avionics system.



On the way to Jandowae at around 8000 ft and good looking sky no time for the batteries to die.

Battery

The batteries used in gliders are a lead acid battery VRLA (Valve Regulated Lead Acid). More specifically they are a Gel Cell (gel instead of a liquid) or AGM (Absorbed Glass Matt) battery which is taking over the gel cell market because of superior qualities. It is still basically the same as your car battery but the lead acid is not suspended as a liquid so it can go upside down which is a good thing for an aircraft. There are many brands and many claims from the manufacturers including deep cycle versions. As with most things though, you can sometimes get a good battery cheap but a cheap battery is usually no good. The only way to know the performance of the battery is by looking at it's data sheet.

Technically speaking there is no such thing as a "deep cycle" lead acid battery. Some handle cycling (completely draining the battery) better than others but all lead acid batteries dislike being completely discharged and this in turn will shorten it's lifespan. Unlike the humble Nicad battery which love to be constantly cycled, lead acid batteries prefer to stay fully charged. Try flattening your car battery a few times and see what happens. A "Deep Cycle" battery is only designed for discharging between 50-80% anyway. With that in mind it could be said that AGM batteries are not a good match for use in gliding but the reason is not to do with performance, it is safety. If a AGM battery fails or is shorted out it will generally fail in a safe manner without causing a fire or noxious smoke which is a good thing in a cramped cockpit at 10,000ft.

The battery size used in gliders is a 7Ah (amp hour) capacity which usually means that if you have current draw of 1 amp it will last 7 hours. Lead Acid batteries are a bit different and the battery capacity changes depending on the current being drawn. See the attached data sheet of a Panasonic 7.2Ah battery. Look under the "Characteristics" section. It is only rated as 7.2Ah when 360mA (or .36 amps) current is being drawn. When 4900mA (4.9 amps) current is being drawn it's capacity is down to 4.9Ah. Simply put, the more the current draw, the lower the battery capacity. Most glider cockpits use between 500mA and 1 amp current draw.

The "Discharge Characteristics" section shows the battery voltage verses discharge time. With a .72A current the battery starts at the float charge of around 13.5v and then drops to around 12.3v for about 3 hours before slowly dropping the voltage level. Below 12v the battery is considered almost empty and various instruments in the cockpit will start to shut down including the radio which will not function properly when transmitting as it requires more power and in turn puts more load on the battery giving it even less capacity (which explains those garbled transmissions at the end of the day). The bottom chart shows that the battery capacity also drops when the temperature drops (those long cold high CU days affect battery capacity). In the "Dimensions" section it mentions different terminal types. The larger Faston 250 terminal type should be used as it handles larger currents better.

Battery Charger

Gel Cell batteries require a specific type of 12v charger and considering we spend most of our time away from the gliding club, a maintenance float charger is best. A standard charger simply continues charging until it is manually turned off which would damage the battery if left on. Some chargers go to a trickle charge when the battery is full but this can still damage the battery over time. A maintenance float charger charges the battery until it reaches about 14.4 volts (which means the battery is full) and then drops the voltage to between 13.5-13.8 volts which is known as the float charge voltage. The battery can be held this way for many years without damage. A healthy battery can be removed from a charger for over 12 months and will be OK but will slowly drop in voltage. It should not be allowed to drop below 12.5 volts (the storage voltage) as this can reduce the batteries life. When using multiple batteries in the glider that are independently selectable in flight make sure to have a separate charger for each battery as incomplete charging will occur if they are charged as one. In short, buy a good quality suitable charger and your batteries will last longer. If the charger has a voltage meter (like the club chargers) check the voltage before removing the battery. If it is below 13.5v then do not use it as it is either not fully charged or faulty.

VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-R127R2P

For main and standby power supplies.
Expected trickle life: 3-5 years at 25°C, Approx. 5 years at 20°C.



Photo/Label for reference only.

Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		7.2Ah
Dimensions	Length	5.945 inches (151.0 mm)
	Width	2.539 inches (64.5 mm)
	Height	3.702 inches (94.0 mm)
	Total Height*	3.937 inches (100.0 mm)
Approx. mass		5.45 lbs. (2.47 kg)
Standard Terminals and Reels	UL94HB Faston 187	LC-R127R2P
	UL94HB Faston 250	LC-R127R2P1

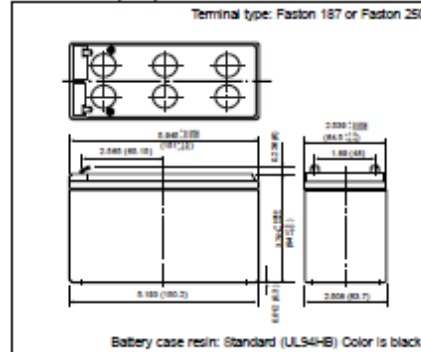
* The total height with 250 terminals is 101.5mm.

Characteristics

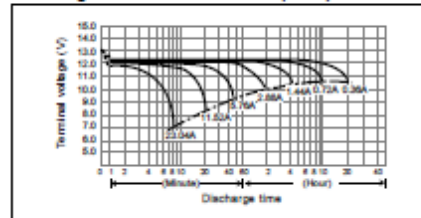
Capacity (Note)	20 hour rate (360mA)	7.2Ah	
	10 hour rate (680mA)	6.8Ah	
	5 hour rate (1360mA)	6.3Ah	
	1 hour rate (4900mA)	4.9Ah	
1.5 hour rate discharge Cut-off voltage 10.5 V		3.5A	
Internal Resistance	Fully charged battery	Approx. 40mΩ	
	77°F (25°C)		
Temperature dependency of capacity (20 hour rate)	104°F (40°C)	102%	
	77°F (25°C)	100%	
	32°F (0°C)	85%	
Self discharge (77°F (25°C))	Residual capacity after standing 3 months	91%	
	Residual capacity after standing 6 months	82%	
	Residual capacity after standing 12 months	64%	
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	2.88 A or smaller
		Control voltage	14.5V to 14.9V per 12V cell (25°C)
	Trickle use	Initial current	1.08 A or smaller
		Control voltage	13.6V to 13.8V per 12V cell (25°C)

(Note) The above characteristic data are average values obtained within three charge/discharge. Cycles not the minimum values.

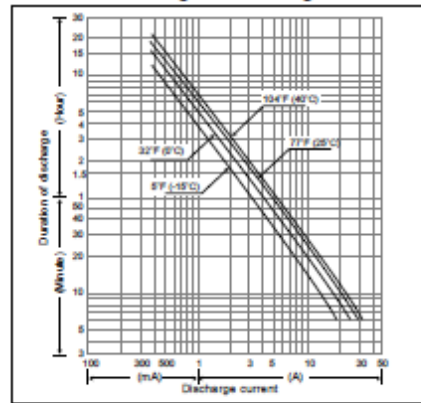
Dimensions (mm)



Discharge characteristics 77°F (25°C) (Note)



Duration of discharge vs. Discharge current (Note)



VRLA BATTERIES

AUGUST 2005

This literature is general in nature and is not intended to make or imply any representation, guarantee or warranty with respect to any cells and batteries. Cell and battery design specifications are subject to modification without notice. Contact Panasonic for the latest information.

Cockpit Wiring

I would say that 80% of gliders flying today have not only under performing wiring but unsafe wiring as well. Old gliders generally have very old and under sized wiring that was never intended to supply power to the vast amount of instruments we use today. Most instruments weren't even available when the glider was new. New or near new gliders don't get off scott free either as many manufacturers use the minimum gauge wire to keep costs down. I have even seen the remains of factory wiring that shorted out during a DI (and filled the hangar full of smoke) of a glider which after closer inspection was found to be speaker wire!

I'll try to keep this simple so please be gentle with me afterwards "electronics experts". As electricity moves through a circuit of wires circuit breakers and switches it encounters resistance. If the the wire, circuit breakers or switches are not designed to take the current or are very old (old wire cannot handle the same current as new wire) then more resistance will occur. Resistance is friction and when you get friction you get heat. Simply put, an undersized wiring harness will waste battery power by heating the wires. In extreme cases with unsafe wiring that can lead to a fire. In a nut shell you want the gliders

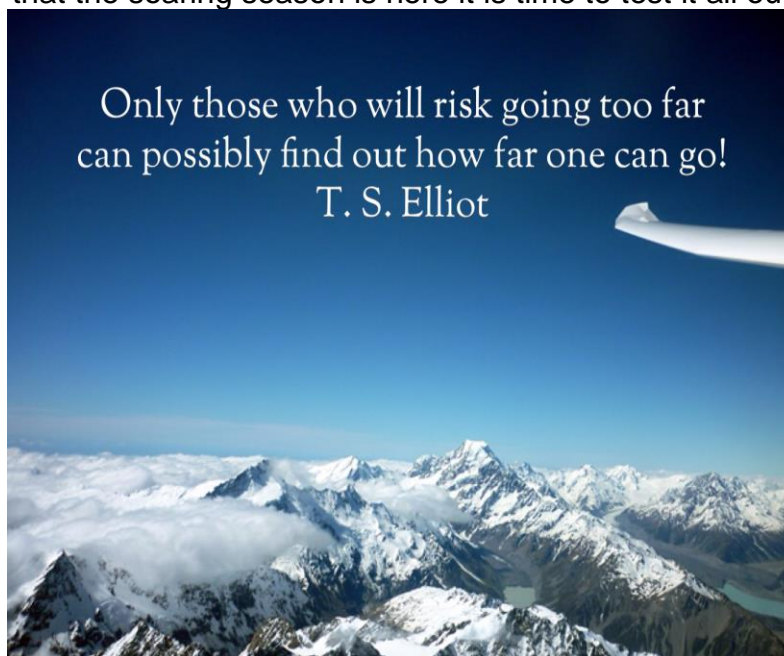
electrical circuit to be as resistance free as practically possible. It's the same as reducing drag on a gliders airframe. You wouldn't intentionally fly around with your wheel down as it would reduce your performance. The same can be said for the wiring.

A simple way to check your gliders electrical system is looking at the voltage drop between the battery and the instrument panel. Because there is no inflight charging system in a glider (unless you have solar panels) the electrical system needs to be as efficient as possible so the aim would be to have only .1v drop. Much more than that and you have a problem.

There are ways to calculate the wire gauge needed for the application depending on circuit length, current and voltage drop required but a quick rule of thumb for the average gliding cockpit is 12-14 gauge from the battery to main switch, 16-18 gauge behind the panel from the circuit breaker to the instruments and 20-22 gauge for speaker and data cable. Wire should be aircraft grade wire and all wire runs should be made in one piece. Try to limit the number of switches, circuit breakers and connectors as they not only increase resistance but also increase the number of possible failure points. Terminating wire should be done with good quality crimp connectors and proper ratchet type crimping pliers should be used to secure them. Good quality circuit breakers and switches should be used as cheap items can build up carbon deposits on the terminals increasing resistance.

Test Subject

The Nimbus I fly has a current draw of around 800mA without transmitting and is powered by two 7amp hour batteries. Going off the info above it should last about 6 hours before dropping below 12v (radio transmitting not included). The Nimbus also has solar panels which produce 500mA. This brings the current draw down to 300mA and now should last over 12 hours. Trouble was it was often not lasting anymore than two hours. After much searching I came to the following conclusion. The batteries that were being used were inferior and the chargers were a trickle type charger which was damaging the batteries slowly during the week while on charge. The wiring in the glider was far too small gauge as there was a .5v drop to the front panel and over 1.0v while transmitting. What this meant was that the instruments were nearly always running below 12v and much less while transmitting. The wiring problem was compounded because the batteries are charged through this wire and because of the voltage drop the chargers were not even charging the batteries fully, damaging them even more. I have since replaced the batteries and chargers with the correct items and totally rewired the avionics with the correct gauge wire. All the tests indicate positive progress and I should not have battery dramas anymore. Now that the soaring season is here it is time to test it all out. Lets go flying.



My first wave flight at 14000 ft looking down on Mt Cook

Longest OLC Flights of the year

Another thing I am putting in is a copy of the best flights (statistically) out of DDSC (McCafreys Field). To this end I have downloaded a list of flights from the OLC for the last year (that's October 2011 to October 2012 the OLC year). I have made a cut off of 300kms as the year has 200 flights on it and is too big. In future I will do it quarterly (if I can get a chaotic out quarterly) and could put more in. One of the reasons for this is to encourage members to go and do cross country flights and put them on the OLC. There is a book in the clubs cabinet that is a log of significant flights but has not been used in several years I think the OLC has replaced this so here they are.

<i>Distance</i>	<i>Speed</i>	<i>Pilot</i>	<i>Points</i>	<i>Date</i>	<i>Club</i>	<i>Aircraft</i>
780.05	113.37	Gerrit Kurstjens (AU)	773.82	31/03/2012	Darling Downs Soaring Club	Nimbus 4T
595.07	102.96	Chad Nowak (AU)	620.89	1/01/2012	Darling Downs Soaring Club	Nimbus 4DM
574.94	113.71	Pam Kurstjens-Hawkins (AU)	480.26	31/03/2012	Darling Downs Soaring Club	ASH 31/21m
548.35	101.14	John Moore (AU)	511.92	21/01/2012	Darling Downs Soaring Club	ASG 29/18m
541.52	117.95	Gerrit Kurstjens (AU)	461.11	22/09/2012	Darling Downs Soaring Club	Nimbus 4T
530.15	101.05	John Moore (AU)	525.58	21/04/2012	Darling Downs Soaring Club	ASG 29/18m
523.04	74.39	Leon Moran (AU)	541.73	20/11/2011	Darling Downs Soaring Club	Duo Discus
512.79	100.54	Allan Barnes (AU)	658.42	12/11/2011	Darling Downs Soaring Club	LS 1 f
495.86	90.71	Ralph Henderson (AU)	462.89	18/02/2012	Darling Downs Soaring Club	Duo Discus T
492.62	100.49	Gerrit Kurstjens (AU)	503.83	21/04/2012	Darling Downs Soaring Club	Nimbus 4T
477.98	91.95	Allan Barnes (AU)	552.88	21/01/2012	Darling Downs Soaring Club	LS 1 f
468.07	87.15	Steven McMahon (AU)	497.12	11/03/2012	No Club	Mosquito
463.21	98	Chad Nowak (AU)	377.61	19/05/2012	Darling Downs Soaring Club	Nimbus 4DM
460.56	107.36	John Moore (AU)	472.27	22/09/2012	Darling Downs Soaring Club	ASG 29E/18m
441.76	73.84	Allan Barnes (AU)	518.69	11/03/2012	Darling Downs Soaring Club	LS 1 f
441.24	108.5	Richard Hoskings (AU)	405.33	12/11/2011	Darling Downs Soaring Club	ASW 20
436.73	84.32	Steven McMahon (AU)	499.71	20/05/2012	No Club	Mosquito
427.28	107.76	John Moore (AU)	404.48	27/11/2011	Darling Downs Soaring Club	ASG 29E/18m
422.37	102.23	Richard Hoskings (AU)	462.21	23/10/2011	Darling Downs Soaring Club	ASW 20
421.81	111.33	John Moore (AU)	412.61	6/10/2012	Darling Downs Soaring Club	ASG 29E/18m
420.03	104.62	David Tillman (NZ)	465.56	23/10/2011	Canterbury Gliding Club	Duo Discus
419.78	90.42	John Moore (AU)	408.88	10/03/2012	Darling Downs Soaring Club	ASG 29E/18m
417.93	87.03	Pam Kurstjens-Hawkins (AU)	438.17	3/10/2012	Darling Downs Soaring Club	ASH 31/21m
416.98	88.4	Jo Davis (AU)	499.42	23/10/2011	Darling Downs Soaring Club	ASW 19
406.21	81.8	Allan Barnes (AU)	509.82	6/11/2011	Darling Downs Soaring Club	LS 1 f
405.55	76.65	Michael Codling (AU)	517.69	3/10/2012	Darling Downs Soaring Club	Hornet
401.9	83.85	Robert Bradley (AU)	449.42	3/10/2012	Darling Downs Soaring Club	Arcus T
396.92	99.55	John Moore (AU)	391.85	5/10/2012	Darling Downs Soaring Club	ASG 29/18m
394.07	100.98	Jo Davis (AU)	510.36	12/11/2011	Darling Downs Soaring Club	ASW 19
390.91	92.86	Michael Codling (AU)	0	31/03/2012	Darling Downs Soaring Club	Hornet
387.5	111.16	Brian Du Rieu (AU)	329.16	3/10/2012	Kingaroy Soaring Club	LS 10/18m
384.55	85.49	Michael Codling (AU)	487.16	14/12/2011	Darling Downs Soaring Club	Hornet
384.05	91.8	Jo Davis (AU)	390.24	31/03/2012	Darling Downs Soaring Club	ASW 19
378.42	91.22	John Moore (AU)	344.02	31/12/2011	Darling Downs Soaring Club	ASG 29E/18m
377.46	109.13	Richard Hoskings (AU)	345.93	31/03/2012	Darling Downs Soaring Club	ASW 20
376.01	85.7	Ralph Henderson (AU)	421.98	19/02/2012	Darling Downs Soaring Club	Duo Discus T
374.48	81.43	Allan Barnes (AU)	417.94	1/10/2012	Darling Downs Soaring Club	Duo Discus
371.02	91.74	Leon Moran (AU)	365.78	20/05/2012	Darling Downs Soaring Club	Nimbus 2 c
370.44	81	Ralph Henderson (AU)	392.06	24/10/2011	Darling Downs Soaring Club	Duo Discus
370.34	65.79	Michael Codling (AU)	375.06	13/12/2011	Darling Downs Soaring Club	Hornet
369.25	83.52	David Tillman (NZ)	409.91	24/10/2011	Canterbury Gliding Club	Duo Discus
367.19	96.32	Ralph Henderson (AU)	413.18	20/11/2011	Darling Downs Soaring Club	Duo Discus
365.6	104.42	John Moore (AU)	362.51	12/08/2012	Darling Downs Soaring Club	ASG 29E/18m
364.61	88.18	Pam Kurstjens-Hawkins (AU)	319.09	10/03/2012	Darling Downs Soaring Club	ASH 31/21m
364.09	94.6	David Tillman (NZ)	355.64	25/10/2011	Canterbury Gliding Club	Duo Discus
363.76	82.13	Ralph Henderson (AU)	347.59	25/10/2011	Darling Downs Soaring Club	Duo Discus
362.33	116.81	Pam Kurstjens-Hawkins (AU)	372.53	2/10/2012	Darling Downs Soaring Club	ASH 31/21m

361.12	76.24	Phillip Southgate (AU)	458.04	3/10/2012	Warwick Gliding Club	Hornet
360.68	112.81	Jenny Thompson (AU)	320.07	6/10/2012	Darling Downs Soaring Club	ASW 27
355.8	86.86	Paul Bart (AU)	399.74	20/05/2012	Darling Downs Soaring Club	SZD 55
355.35	80.82	Leon Moran (AU)	379.66	19/05/2012	Darling Downs Soaring Club	Nimbus 2 c
355.12	75.66	Leon Moran (AU)	373.06	23/10/2011	Darling Downs Soaring Club	Mosquito
353.44	103.77	John Moore (AU)	346.96	12/11/2011	Darling Downs Soaring Club	ASG 29E/18m
353.23	76.66	Michael Codling (AU)	440.09	24/10/2011	Darling Downs Soaring Club	Hornet
353.18	108.71	Pam Kurstjens-Hawkins (AU)	293.21	1/10/2012	Darling Downs Soaring Club	ASH 31/21m
351.09	107.01	Gerrit Kurstjens (AU)	349.27	1/10/2012	Darling Downs Soaring Club	Nimbus 4T
349.31	108	Pam Kurstjens-Hawkins (AU)	371.44	16/09/2012	Darling Downs Soaring Club	ASH 31/21m
348.61	114.3	Robert Bradley (AU)	379.28	2/10/2012	Darling Downs Soaring Club	Arcus T
347.51	98.06	Robert Bradley (AU)	0	1/10/2012	Darling Downs Soaring Club	Arcus T
345.67	109.61	Jenny Thompson (AU)	344.74	31/12/2011	Darling Downs Soaring Club	ASG 29
344.45	80.22	Ralph Henderson (AU)	337.1	27/11/2011	Darling Downs Soaring Club	Duo Discus T
342.03	84.82	Paul Bart (AU)	382.22	21/04/2012	Darling Downs Soaring Club	SZD 55
340	118.56	Brian Du Rieu (AU)	289.88	6/10/2012	Kingaroy Soaring Club	LS 10/18m
339.28	113.87	Brian Du Rieu (AU)	0	1/10/2012	Kingaroy Soaring Club	LS 10/18m
337.6	90.23	Phillip Southgate (AU)	389.93	6/10/2012	Warwick Gliding Club	Hornet
337.33	81.68	Leon Moran (AU)	353.39	15/09/2012	Darling Downs Soaring Club	Nimbus 2 c
336.93	90.24	Richard Hoskings (AU)	306.93	15/09/2012	Darling Downs Soaring Club	ASW 20
336.83	90.06	Ralph Henderson (AU)	357.17	23/10/2011	Darling Downs Soaring Club	Duo Discus
333.74	75.98	David Nash (AU)	389.69	31/12/2011	Darling Downs Soaring Club	Discus
333.53	86.2	Brian Du Rieu (AU)	344.64	4/10/2012	Kingaroy Soaring Club	LS 10/18m
330.01	94.08	Bryan Hayhow (AU)	309.28	3/10/2012	Temora Gliding Club	Discus
328.84	125.76	Brian Du Rieu (AU)	327.67	2/10/2012	Kingaroy Soaring Club	LS 10/18m
328.44	84.59	Robert Bradley (AU)	367.44	4/10/2012	Darling Downs Soaring Club	Arcus T
327.12	81.13	Phillip Southgate (AU)	401.58	4/10/2012	Warwick Gliding Club	Hornet
324.59	93.66	Michael Codling (AU)	402.53	21/04/2012	Darling Downs Soaring Club	Hornet
324.34	94.46	Jo Davis (AU)	408.91	21/04/2012	Darling Downs Soaring Club	ASW 19
323.67	78.59	Robert Bradley (AU)	344.56	5/10/2012	Darling Downs Soaring Club	Arcus T
321.79	120.82	Ralph Henderson (AU)	293.52	19/05/2012	Darling Downs Soaring Club	Duo Discus T
320.19	93.68	Bryan Hayhow (AU)	299.63	1/10/2012	Temora Gliding Club	Discus
318.83	87.4	Adam Woolley (AU)	409	1/10/2012	Kingaroy Soaring Club	Std. Cirrus
318.25	99.05	Pam Kurstjens-Hawkins (AU)	319.52	5/10/2012	Darling Downs Soaring Club	ASH 31/21m
317.79	85.64	Paul Bart (AU)	362.48	27/11/2011	Darling Downs Soaring Club	SZD 55
317.73	74.94	Barry Daniel (AU)	345.62	25/10/2011	Darling Downs Soaring Club	Mosquito
317.18	59.41	Troy Lane (AU)	398.44	25/10/2011	Darling Downs Soaring Club	G 102 Club Astir
316.11	103.04	Bryan Hayhow (AU)	296.17	6/10/2012	Temora Gliding Club	Discus
315.08	87.81	Jo Davis (AU)	399.68	1/10/2012	Darling Downs Soaring Club	ASW 19
314.45	73.36	Phillip Southgate (AU)	384.07	5/10/2012	Warwick Gliding Club	Hornet
314.08	105.42	Brian Du Rieu (AU)	269.18	5/10/2012	Kingaroy Soaring Club	LS 10/18m
312.2	101.19	Robert Bradley (AU)	278.34	6/10/2012	Darling Downs Soaring Club	Arcus T
311.96	84.19	Michael Codling (AU)	380.26	2/10/2012	Darling Downs Soaring Club	Hornet
311.41	82.06	Richard Hoskings (AU)	346.23	27/11/2011	Darling Downs Soaring Club	ASW 20
307.98	96.96	John Moore (AU)	299.76	26/08/2012	Darling Downs Soaring Club	ASG 29E/18m
307.07	83.09	Chad Nowak (AU)	338.83	10/03/2012	Darling Downs Soaring Club	Duo Discus XL
306.71	69.22	Fran Ning (AU)	342.97	7/01/2012	Darling Downs Soaring Club	ASW 20
304.67	69.26	Leon Moran (AU)	347.35	19/02/2012	Darling Downs Soaring Club	Mosquito
303.58	101.04	John Moore (AU)	266.23	11/02/2012	Darling Downs Soaring Club	ASG 29E/18m
303.25	113.78	Pam Kurstjens-Hawkins (AU)	307.3	21/04/2012	Darling Downs Soaring Club	ASH 31/21m
303.07	91	Pam Kurstjens-Hawkins (AU)	312.88	4/10/2012	Darling Downs Soaring Club	ASH 31/21m
303.03	68.87	Peter Werda (AU)	374.26	27/11/2011	Darling Downs Soaring Club	Hornet
301.68	89.97	Jo Davis (AU)	360.69	3/12/2011	Darling Downs Soaring Club	ASW 19
301.2	93.93	David Nash (AU)	282.89	19/05/2012	Darling Downs Soaring Club	Discus

Well that's all I have for the moment.

The next Issue is planned for April we could have some stories from competitions and I will need more photos so send all you have got to me. Any suggestions just contact me.

Safe flying see you at the field.

Remember 2 things will kill you failure to keep a good lookout and low speed close to the ground that's a Brian Wade saying more or less.