

P&DARCS

Pakenham & District Aircraft Radio Control Society

THE NEWS AUGUST 2013



An early July morning at our flying field, looking West, cold and frosty
The sun later thawed it out for a perfect flying day

 Geoff Healy

REMINDERS:

- # **NAME BADGES MUST BE WORN AT ALL TIMES, NO BADGE, NO FLY.**
(TO STOP FREELoadERS USING YOUR FLYING FIELD)
- # VISITORS MUST BE SIGNED IN, AND WEAR A "STICK ON" NAME BADGE
- # WHEN STARTING AN I.C POWERED MODEL, OR ARMING AN ELECTRIC POWERED MODEL IN THE PITS, THE MODELS MUST BE RESTRAINED
- # ELECTRIC POWERED MODELS SHOULD BE ARMED AT THE FLYING STRIP AND DISARMED AFTER LANDING

Next Club Meeting, **and AGM**, Saturday August 3rd
at the Burley Field, 1-00 pm start

BURLEY FIELD

Wenn Road Cardinia

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Editor's Bit

The second year of Newsletter Editing, I don't get any barbs, or complaints, so I must be doing something right, although I think the format is a bit bland

The Newsletter is supposed to convey to you what is going on at our Club, the best flying Club in the World, I hope it does that

The AGM is coming up on 3rd August, there will be vacant Committee positions

Please have a good hard think about giving one of these jobs a go, even for one year

At Committee meetings we have a lot of laughter, along with getting the work done, it all happens in a friendly relaxed way

P.S I will be putting my hand up for this job again

NOTICE :

If you have not paid your Club Fees, you are not financial, and you must not fly



Frank McPherson Editor

What's On

At P&DARCS 2013

Look in the Club Calendar on page 6

From the VMAA Events Calendar 2013

Aug

3 rd – 4 th	F3A Aerobatics Horsham WMAA	
17 th -18 th	Pylon Racing Cohuna	CMFC
18 th	"Classic Pattern" Aerobatics for 'early' .60 size models VMAA State Field	NFG

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PRESIDENT

Gee!! The last 12 months have absolutely flown by, some people are trying to tell me that I am getting old. I don't believe it for a moment.

We are all getting older year by year, me included, but I for one am NOT getting **OLD**, after all, if I get **OLD**, I won't, be able to play with all the lovely "boy's toys" I have in the workshop.

Seriously, I have seen friends who have reached retirement age, and suddenly find they have nothing more important in their day than a TV program.

I have watched them grow old very quickly.

I haven't got time for that, my wonderful, absorbing, educational hobby, fills every spare minute of almost every day.

I am sure this helps to keep me generally healthy and reasonably fit for the day to day, challenges of life.

A very important part of the whole life picture is our Club and the circle of friends I have made through my membership

I look at what I have gained through my years with the Club and I say I am a lucky fella. I hope you all feel the same.

Thank you for giving me the pleasure of leading the Club for the past year, it has been enjoyable, and a "learning curve".

Next meeting is the AGM, --see you there.

Bill' Reynolds, Pres'

SECRETARY

Secretaries Annual Report

There was no report for the July meeting as it was taken up by the club auction, I was not in attendance but I was informed it went well and number of items were donated to the club.

I have had a good year with the club with many calls for information and helping others in various ways.

There is always something to do whilst you are Secretary, I enjoy doing the work that has been expected of me, The previous Public Officer is now replaced by the Secretary, this is now the responsibility of the Secretary of the club, this is a directive from the Association Incorporation Reform Act 2012, which came into force November 2012, these forms are to be filled in annually after the A.G.M.

I have now been the Secretary for this great club for some years, I would gladly take on this roll again, a responsibility that I enjoy.

The club has a good Committee and it is a pleasure to work with them.

Notice:

Next Club Meeting, and AGM, Saturday August 3rd at the Burley Field, 1-00 pm start

Don White Secretary

TEAM CAPTAIN

No report at this time

Steve Malcman P&DARCS Team Captain

Notice of Annual General Meeting Darcfields Co-operative Limited

The Annual General Meeting of the Society will be held at the P&DARCS Club 30 Fowler Rd Cardinia VIC 3978 at 1pm **Saturday 5th October 2013**.

Ordinary business of the meeting will be:

1. To confirm the minutes of the last AGM
2. To receive from the Board, Auditor or any officer of the Society reports upon the transactions of the Co-operative during the financial year including balance sheet, trading account, profit and loss account, statement of cash flows, and the state of affairs at the end of the financial year.
3. To elect and confirm the remuneration (if any) of the Directors. Mr P. Harris and Mr M. Norton are retiring as directors as required by the rules and offer themselves for re-election.
4. To appoint an Auditor
5. To transact any special business of which notice has been given to members in accordance with the rules.

The rules provide that any member having a resolution to submit to a general meeting "*shall give written notice thereof to the Society not less than twenty-one days prior to the date of the meeting*". Any such notice must be sent to:

The Secretary
Darcfields Co-operative Limited
58 Baker Road
HARKAWAY VIC 3806



WEBMASTER

A very non eventful month with nothing much to report.

I am still working on the migration of the Website to a later version. While I am doing this you will not see much changing with the Website content.

Paul Webber, Webmaster

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REGISTRAR

Membership Renewals

I have been busy processing the renewal forms. Once I get them I try to process them as soon as possible.

On the subject of the renewal form, please return it as it just makes Peter H's and my job easier, and please print clearly on the form if you have any changes.

I have updated the Newsletter email list on the Website, so only current members will be notified of new Newsletters. Newsletters will still be available for anyone to download if they wish.

Inductions / Orientation

Please give me a call or email to arrange a time. I now have Frank to give me a hand if you wish to make a time during the week.

Please note that I will not chase you to make an appointment.

Changes to your contact information

Let me know of any changes of your details by email registrar@pdarcs.com.au (preferred) snail mail (Club mail address) or least preferred by phone (my mobile)

New Member Applications

Ian Thompson (Not Thommo') has rejoined the Club as a Full member

M Howell has applied as a Probationary member of the Club.

Membership to date, refer to the spreadsheet below

Paul Webber, Registrar

Phone 0417 558 779

Email: Registrar@pdarcs.com.au

	Paid 2012-13	Unpaid	New 12-13
Associate	2	7	0
Full	72	28	0
Junior	0	0	0
Life	3		
Non-flying Full	0	0	0
Pensioner	31	3	0
Probationary	8	5	1
Student	0	2	0
Spouse	1	0	0
Resigned	0	3	
Lapsed		0	
Re Joined	1		
Passed Away	0		
Sub Total	117	3	1



SOCIAL DIRECTOR

The annual P&DARCS auction was held at Dingley Village on the 6th of June. There was a wide variety of stuff up for sale. I lot of people selling IC motors, which leads me to think electric is taking over. I hope you found a bargain. I'd like to thank Wal & Pearl for running the coffee stand for us & also the number of helpers who assisted by carrying out items to our expert auctioneer, Peter H. A big thank you to the people who donated items to be auctioned

Again, people who volunteer to help the club made this event work.

Daniel Jenkins, Social Director

SAFETY OFFICER

Daniel J and I installed 3 fire extinguishers. 1 in each charging station and one in the Tx pound

Alan Foley Safety Officer

BUILDINGS OFFICER

No report for this month

David Glossop, Buildings Officer

FIELD MANAGER

Hi guys, just back from 3 weeks in Darwin and Katherine. The Katherine Krackers was on while I was there. No, not Fireworks but a large IMAC event, approx 23 competitors.

Adam Chipchase and Idoh were there from Vic, a few from Adelaide and a few from Perth and Kalgoorlie, plus from Brisbane and Darwin.

Zac Mitchell, an ex P&Darc Junior member was there from Darwin. He has just joined the air force and moving down to Wagga.

They began arriving on the Wednesday to practice for the weekend event. Many take two weeks off work to travel and compete. Two from Katherine also compete. A great event. Every day was above 30 deg with min 15 deg. Taking time to adjust to Melbourne again.

FIELD UPDATE Our excavator contractor plus Ian Jaques and I completed the drainage along Wenn Rd, plus cleared a track over the Wenn Rd levy and cleared around the spoon drain. What a mess of vegetation in that levy. I will try to get Melb water to see it when I meet them on site when they clean out the western drain. We also buried the large slabs of concrete and bollards with the excavator, so this completes the clean up of rubbish from our site. This drainage work now ensures good drainage from the Eastern, Southern and Western paddocks adjacent to our flying field area.

Thank you to the Co Op for financing this work, and to Daniel and Ian Jaques for their valued help.

Norm Morrish Field Manager

P&DARCS CALENDAR FOR 2013

Date	Day	Confirmed?	Location	Details
July				
18 th	Thu	Yes	Dingley	Committee Meeting
August				
3 rd	Sat	Yes	Burley Field	Club Meeting & AGM
22 nd	Thu	Yes	Dingley	Committee Meeting
31 st	Sat	Yes	Burley Field	Bi-Monthly Twi-Fly
September				
1 st	Sun	Yes	Burley Field	Club Meeting
19 th	Thu	Yes	Dingley	Committee Meeting
October				
5 th	Sat	Yes	Burley Field	Club Meeting & CO-OP AGM
24 th	Thu	Yes	Dingley	Committee Meeting
26 th	Sat	Yes	Burley Field	Bi-Monthly Twi-Fly
November				
2 nd	Sat	Yes	Burley Field	VFSAA Sports Scale Event
3 rd	Sun	Yes	Burley Field	Club Meeting
21 st	Thu	Yes	Burley Field	Committee Meeting (Summer)
December				
1 st	Sun	Yes	Burley Field	APA Pattern
7 th	Sat	Yes	Burley Field	Club Meeting
11 th	Wed	Yes	Burley Field	Annual Dinner & Twi-Fly

LITHIUM POLYMER BATTERIES (LiPO's) SOME BASICS



 Frank McPherson

A typical LiPO battery

Why LiPOs Are Used

LiPo batteries are a type of rechargeable battery that has taken the electric RC world by storm, especially for planes and helicopters.

They are the main reason electric flight is now a very viable option over fuel powered models.

RC LiPo batteries have three main things going for them that make them the perfect battery choice for RC planes and even more so for RC helicopters over conventional rechargeable battery types such as NiCad, or NiMH.

1. RC LiPo batteries are light weight and can be made in almost any shape and size.
2. RC LiPo batteries have large capacities, meaning they hold lots of power in a small package.
3. RC LiPo batteries have high discharge rates to power the most demanding electric motors.

These benefits are important in any RC model, but for airplanes and helicopters they are the reason electric flight has become so popular. Face it, electric cars and boats have been around for decades, it wasn't until LiPo battery technology arrived on the scene that electric planes and helicopters started showing up and are now surpassing nitro power and even turbines in terms of power to weight ratios.

Basic Construction

Almost every RC LiPo battery cell is packaged in an aluminium foil pouch, coincidentally called a pouch cell. The picture below shows a typical 2 cell LiPo RC battery pack.

Pouch cells are the perfect solution for building multi celled battery packs since the flat pouch cell can be stacked with no wasted air spaces like found within round celled battery packs. Of course since LiPo's use this light weight pouch instead of a metal can, less weight is the result making LiPo's the best choice over Li-Ion in a weight conscious application such as RC aircraft.



 Frank McPherson

A typical LiPo RC (pouch) battery pack, 5000mAHr, beside a golf ball to judge size
The small tabs on each end are the + and - electrical connections

Handling Precautions

1. Be very careful to never let the main + and - leads touch or inadvertently plug them together, fire and brimstone will be the result
2. Be careful to not drop the battery on a hard surface, the cells can be damaged

Using your LiPO's, (discharging)



 Frank McPherson

A 40 size electric powered Biplane

A LiPO will heat up if it discharged under load to around 3.0 volts per cell - it will become very warm/hot and will shorten its life substantially.

A very good rule to follow here is the **"80% rule"**.

This simply means that you should never discharge a LiPo pack down past 80% of it's capacity to be safe. For example, if you have a 2000 mAh LiPo pack, you should never draw more than 1600 mAh out of the pack (80% x 2000). This is assuming a healthy pack as well that has the full 2000 mAh capacity (as packs age, their capacity drops).

The four main things that shorten LiPo battery life are:

1. Heat
2. Over Discharging
3. OVER Charging
4. Inadequate Balancing

Charging And Balancing LiPO batteries



 Frank McPherson

A typical computer controlled charger, and power supply, on a concrete surface

Charge LiPO batteries on a fireproof surface, OR in a fireproof bag, and at least 1M from any combustibile material

A 3.7 volt RC LiPo battery cell is 100% charged when it reaches 4.2 volts. Charging it past that will ruin the battery cell and possibly cause it to catch fire..

It is critical that you use a charger specified for LiPo batteries and select the correct voltage or cell count when charging your RC LiPo batteries if you are using a computerized charger.

If you have a 2 cell (2S) pack you must select 7.4 volts or 2 cells on your charger. If you selected 11.1V (a 3S pack) by mistake and tried to charge your 2S pack, all the better computerized chargers out there these days will warn you if you selected the wrong cell count, and not start to charge

Balancing is required on any RC LiPo battery pack that has more than one cell since the charger can't identify from different cells and know if one might be overcharged even though the total voltage of the pack indicates otherwise. Balancing ensures all cells are always within about 0.01-0.03 volts per cell so over charging or discharging of one or more cells won't ruin your battery pack, or worse become a safety issue from overcharging a cell.

Note the small balancing lead plugged into the charger, behind the main leads, in the picture above

LiPO Damage

1. Swelling



 Frank McPherson

A badly swollen 6s 5000 mA hr LiPO pack, very risky to continue using this one

LiPo cells can swell a little bit, especially if they are getting pretty warm during use.

It is actually somewhat normal (again based on how hard you run the packs, the quality of the packs, and how much they heat up) and as long as it is very-very minor swelling & goes away after the pack cools down you usually have nothing to worry about.

As packs age, the swelling can get a little worse

As a LiPo pack is nearing the end of its useful life it can show some very minor swelling that won't go away, even after the pack cools. This pack may still have some nice non aggressive flights left in it however, so treat it kindly with gentler flying / driving in its early retirement before sending it to the LiPo grave yard

If the LiPO pack is swelled up to the point that is tight as a drum, (as shown in the picture above),and very hot to touch, and it does not return to normal size when it cools, do not use it, dispose of it

2. Crash Damage





Frank McPherson An impact damaged 6s 5000mAh LiPO pack, (it did not burn !)

Dispose of crash damaged LiPO packs

Disposing Of LiPO Packs

Unlike NiCd or NiMH batteries, LiPO batteries are environmentally friendly

1. If any LiPO cell is swollen or physically damaged do NOT discharge the battery, jump to step 5
2. Place the battery in a fireproof container or on a concrete surface at least 1M away from combustible material
3. Discharge the battery using a LiPO discharger, or use a lamp
4. Discharge the battery to 1.0 volts per cell or lower
5. Submerge the battery in a bucket of salt water, (½ cup of table salt per 4 liters of water) use a sharp object and puncture the LiPO cells when immersed, leave the battery in the salt water for an extended period, (two weeks)
6. Remove the battery from the salt water, wrap in newspaper or a paper towel, and place in normal trash

Some models, and people at our Flying Field early July

 Frank McPherson



Solving the World's problems



More problem solving



Terrible twosome

Mal' and Colin



Cliff McIver and Grandson Bailey



Sebastien, Doug Dorrat's Grandson



Man and machine, Peter Hill



Darren, and Bruce



SPEED MACHINES

By Richard (Dick) Ryland

McDonnell Douglas F-4 Phantom

This HUGE aircraft is one of my all time favorites. This big BRUTE of a thing ruled the air over more Western countries than any other.

First flown in 1958, then known as the Phantom 11, it was still being produced twenty years later. Over 5000 were made and many are still flying with smaller air forces *fifty five years later!*

It was a revolution in fighter design with its sheer size, two huge engines, and a second crewman to manage the weapons systems.

They fought the North Vietnamese Mig's over their territory and despite many losses they acquitted themselves well. On reading detailed descriptions of those dogfights, I really feel for the Weapons Officer being constantly pushed and pulled all over the sky at high and low g's, not knowing what was going to happen next....they must have had strong stomachs



A major error in the initial design was the complete lack of a gun! It had been assumed that all air-to-air combat would henceforth be by missiles only. Over Vietnam Phantoms often found themselves in perfect shooting position but too close for missile lock-on. This error was well and truly overcome by retrofitting a Vulcan rotary cannon to them! There were a couple of other things that had to be made right. The tail plane was in the efflux from the jet engines so it was simply redesigned to angle down sharply. Lack of stability called for more dihedral on the wing. To save a major engineering job the wings were simply angled up at the point where the navy ones folded. Some of the most recognizable features of this aircraft were the result of quick fixes!



With its huge thrust to weight ratio the Phantom was a natural for a world airspeed record attempt. This was successful in 1961 when a Phantom achieved 1,604 mph, an extraordinary achievement at that time. It set 15 other world records also including the world altitude record at 98,556 ft.

In the aptly named Operation Sageburner in 1961 it was decided to set a speed record at low level as had been done in the earlier times. An early attempt killed the pilot when a pitch mechanism failed and the aircraft pitched up and down so severely that it broke up in the air. Some months later a Phantom flew at an average of 902 mph over a three mile course *never flying higher than 125 ft !!!*



The RAAF used Phantoms while waiting for the F-111 to overcome its early problems. In 1971 at a RAAF air show at Laverton I well remember one of those aircraft's ground shaking roar as it flew past. You can see a Phantom in the RAAF Museum at Point Cook. Entry is free and museum aircraft are flown at 1pm on Tuesdays, Thursdays and Sundays. It is very easy to get to so do go and see it.

The McDonnell Douglas F-4 Phantom, brutally efficient, beautifully ugly, and definitely a magnificent Speed Machine!





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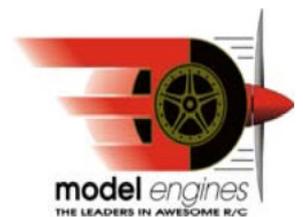
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For more information please contact
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P&DARCS Newsletter
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If undelivered return to
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