



# ROTOR TORQUE

October 2015  
Issue 138

*Official Newsletter of the Melbourne Radio Controlled Helicopter Club Inc*

<http://mrchc.org.au>

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## 2014/ 2015 Committee

### **Upcoming Events:**

#### **State Helicopter Championships**

**20/11/15 Friday (Practice)**

#### **Competition Days**

**21/11/15 Saturday**

**22/11/15 Sunday**

**Venue:** Valley Radio Flyers Club – Shepparton

Refer MRCHC Web Site for Details:

<http://www.mrchc.org.au/>

**28/11/15 (Sat)**

Heligods Event and MRCHC Xmas BBQ

President:	Jeff Sussman
Vice President:	Matt Carmichael
Secretary:	Peter Dalglish
Treasurer:	Roger Chapman (Assist: Brett Dargue)
Editor:	Roger Chapman (Temp)
Contest Director:	Matt Carmichael
Committee Ordinary Member:	Ben Boldeman
Safety Officer:	Mark Altenroxel
Event Coordinator:	Ray Close
VMAA Rep:	Carl Bizon
Website Administrator:	Roger Chapman (Ben Boldeman -Tech)

*Cover image above: After 5 years Jeff's Kamov is ready for its maiden flight. More images by Tony Labita in this issue.*

You can contact any of the committee through our Website:  
<http://www.mrchc.org.au/contact/>

## Presidents Report

*Jeff Sussman*

Reflecting after the AGM, 2014-2015 has been another positive year for our Club. There was however the sad loss of another member, Jason Griffin late last year, who will be remembered for his positive contribution to the day to day club activities and especially the Newsletter.

This club has maintained viable membership numbers for yet another year and continues to attract new members. That speaks volumes for the culture of the club and our great facilities.

The club also continues to support a diversity of flying interests from F3C, Scale, 3D, Multi rotors and general sport flyers. There is also a desire to generate interest in F3N style events - I need to be careful not to call them competitions! These events are designed to provide a reference for improving your flying skills - so if this is your agenda - please take advantage of these activities.

On the topic of skills, please also take advantage of the instructor resources to achieve your Wings Certifications. At a minimum there is an incentive to achieve Bronze/ Silver wings, as this is needed to fly on the main flight lines.

I know that the committee members don't serve to get a pat on the back - but rather because they have a desire to give back to the hobby. The key positions in any club are the President, Secretary (Peter) and Treasurer (Roger - who is also our editor) ably assisted out of the limelight by Brett.

Other key positions are the Vice President (Matty - who is also our Contest Director) to ensure succession planning and an Events Coordinator (Ray) and Safety Officer (Mark). There are also General Members (Ben is one) and VMAA Representatives (Carl). I would also like to thank Ray and Mark, AKA Heligods, for their efforts in promoting the sport and showcasing our club.

I find it a privilege being part of this club helping to guide and manage its affairs. The club is mature and almost runs itself but is always on the lookout for new committee members, club members and additional flying facilities. Please consider playing an active role in its future by putting your hand up to assist with these tasks.

As always our safety is paramount at all times. As our club is affiliated to the MAAA we are obliged to comply with their safety guidelines to ensure we don't invalidate our insurance. In addition to the need to comply with MOPs we have to take into consideration the trend of machines becoming more and more powerful and maneuverable. This means we have to keep reviewing our flight lines and flying patterns of the different communities within our club.



One of our previous Safety Officers and Contest Directors had a philosophy that if you endanger yourself while flying - that is just part of Darwin's theory of natural selection whereby you remove your genes from the gene pool. But, if you endanger others while flying, you will immediately be grounded, your behaviour will be reviewed and steps taken to ensure this does not happen again. While this might be a little extreme, it does reinforce the need to be mindful of how your behaviour might impact on others.

Jeff

## Temp Editors Bit and Welcome to Daniel

*Roger Chapman*

First off a big thank you to Daniel Rotstayn for offering to do our Newsletter at the last General Meeting - obviously with other commitments I have struggled to get it out. So apologies for the infrequency- can't even claim it is a quarterly but hopefully with Daniel on board we will get back on track with the Newsletters coming out every second month generally before the Fun Fly

I think it is important the Club have a newsletter even though there are other forums of course. It is a publication that can focus just on Club Issues and it is distributed to all our members were as the other forums are not.

Now Daniel is going to need your support so if you do have something you wish to share with other members, photos or tips and don't frequent Facebook or chat rooms then this can be an alternative forum that at least goes to all our members.

A milestone this month and after 5 years, was the maiden flight of Jeff's awesome Kamov - so no apologies that this issue has a scale bias.



## Treasurers Report

*Roger Chapman*

Club Membership is healthy but due to the expense of the new floor in the Club House our expenses for 2014 - 2015 were greater than our income.

At the time of writing we currently have 53 members in total. An up to date list is on the Notice Board in the Club House Kitchen.

Here is a summary of our Club Finances as they stood at the end of the financial year:

Investment Account:	\$24,256.51
General Cheque Acc	\$7,436.98
Petty Cash	\$274.40

### Income and Expenses:

Income:	\$14,532.89
Expenses	\$14,943.22

Deduct the new Floor Vinyl to the Club House and Associated Expenses totaled \$7,140.00 without this expense the Net Profit would have been \$6,729.67. You should have all received an email regarding this.

Since the 1/07/15 we have had 4 new memberships and after deducting MAAA/VMAA fees this adds \$954.34 to our balance. This doesn't include 2 recent members.



## Heligods Fun Fly

### Ray Close

Through the week while promotions were running we were very nervous about the weather. We only had a small window for which the weather was predicted to be good. Fortunately the weather was relatively calm for Saturday the 6<sup>th</sup> June.

People and vendors started flooding in quickly and the peak crowd (according to Mark) was 72 with 97 counted in total with people arriving and leaving at various times through the day. Having the cars out of the pits allowed for free movement and easy viewing of the flight lines for the spectators. All flight lines were being utilised with some great skills being demonstrated by many pilots.



Only one bad crash eventuated - and a prize was given to try and alleviate the disappointment.

The Jason Rowe memorial flight went well and Jason's family was there to witness the event. Everyone was at the flight line watching the flight which was structured to try and emulate Jason's flying using his helicopter.

*(Ed: For those that are new to the Club, Jason Rowe was very much part of our Club and the Heli scene who unexpectedly passed away last year - there is a tribute to Jason on our web site: <http://www.mrchc.org.au/about-us/>)*



*Jason Rowe Memorial Flight with the model being piloted by Ray with Mark by his side.*

The raffle draw went really well with Mick Senior - acting in Heligods theme - drew the tickets. When the goblin 380 was drawn, our president Jeff won the prize! However Jeff returned the prize back into the pool for some other hard core 3d pilot to win. A very unselfish gesture - thanks Jeff.

There was a coffee vendor who supplied coffees throughout the day and the barbecue was running hot for quite some time.

At one stage we lost power, but a quick call to the caretaker who then called his apprentice had the power returned on in no time. However we learned that with a capacity crowd it's possible to trip the breaker.

It was a very busy day and we were pretty much nonstop from 7am to 8ish that night.

We had a large variety of attendees and not just the usual faces which was refreshing.



*Ray with Jason's Heli after the flight.*



*The Heligod's mascot was for ever lurking*

## MAAA Instructor Ratings & MRCHC Training

**Matt Carmichael - Vice President/ CD**

The MAAA has also recently overhauled the instructor rating requirements and introduced a national framework for teaching and promoting safe flying.

The requirements to become a recognised MAAA instructor are as follows:

1. Instructor trainees shall have some previous instructional experience and be nominated by their club to attend the appropriate training course (except in exceptional circumstances and at the discretion of the State SFI).
2. Trainee Instructors will attend and successfully complete an MAAA Instructor's course that will culminate in a written test based on Rules and Regulations and the MAAA Instructor's Manual.
3. To be eligible to be considered for an MAAA Instructor rating the Trainee shall hold Gold Wings for the type of Instructor rating required. State Associations' Senior Flight Instructors need to be mindful of the fact that some pilots with Gold Wings may not have the necessary experience for an Instructor rating. It is necessary for Instructors to have a high standard of proficiency with the types of model on which members normally start their training.



## Changes to the MAAA Wings Scheme

**Matt Carmichael - Vice President/ CD**

The MAAA has recently changed the wings recognition program to include a silver wings category, which will commence from July 1, 2015 and cover model aircraft above 2kg.

This move comes after extensive consultation through our 2014 membership survey and feedback from clubs that changes to our proficiency scheme may help encourage “park flyers” and those new to the sport.

### **Bronze Wings**

The bronze wings category will be aimed at attracting modelers who fly models under 2kg. This will allow people who want to start off with a low cost model to enter the wings system and hopefully progress up the scale to bigger and more powerful models.

### **Silver Wings**

Silver wings will be applicable to members flying models weighing over 2kg, while the gold wings will remain the same. The new system will also allow more flyers to demonstrate their proficiency when visiting other MAAA clubs and participating in MAAA Events.

Flying tests for both bronze and silver wings will be the same - that is, the current bronze wings test. The only differing factor will be the weight of the aircraft. The pilot transitioning from bronze to silver wings will have to demonstrate his or her proficiency with flying a heavier and possibly faster aircraft.

In the transition period, all members who hold a bronze wing rating will be provided with silver wings. These wings will be available, through your State Association, at the beginning of the 2015/16 membership year on renewal of membership.

Bronze wings will be retained to cover model aircraft below 2kg. MOP027 Award of Wings and instructor ratings will be amended and published closer to the implementation date.

If you need to obtain your wings, MRCHC has 5 MAAA instructors that are willing to assist and assess members for their wings. Please speak to any of the instructors and someone will be able to help you out. Remember only pilots with a minimum of Bronze Wings are permitted to fly solo on the main flight lines.



Vice President Matt Carmichael (on the right) with visitor Josh Labita

Photo: John Labita

## Safe Disposal of Lithium Polymer (LiPo) Batteries

*Roger Chapman*

No argument LiPo batteries have been instrumental in transitioning the power plants in our model Helis from Nitro to Electric. In such small packages they can output incredible amperages.

All good, but LiPos need to be respected and it is imperative a LiPo battery is charged and used correctly. Just check all the warnings that come with the batteries. There are plenty of scary videos on Youtube where warnings have been ignored. What is very different with a LiPo and unlike a 'normal' battery, a LiPo (depending on the load) as it discharges and the voltage is dropping it is not becoming safer. In fact it is quite the opposite. As the voltage drops the chemical reaction going on in the battery produces heat and the pack becomes 'puffy' and it is during this phase a pack is more likely to overheat and potentially start a fire. The instructions and warnings that come with LiPos are very clear regarding charging and using them. Make sure you follow them and don't become complacent.

But where I have found conflicting, poor or no information is how to safely discharge them for disposal.

### AIM

The aim is to safely discharge the battery to zero volts at which point it can be safely disposed of in the rubbish for landfill. Having said that, check if this is OK with your local council - some I believe have special drop off points for used computer batteries and the like.

### A CLEAN AND SAFE METHOD OF DISCHARGE

1. I don't believe there is anything on the market (opportunity for someone here) but the first thing is to make up an appropriate discharge lead. You should be able to get all the bits you need from Jaycar. On one end, crocodile clips (or appropriate connectors if you feel so inclined) In my case the crocodile clips safely (without risk of causing a short circuit) clipped into the EC5 connector. Using a terminal block, the lead is configured for either a single 12V 21w bulb for 7.4V (2S) to 11.1V (3S) or 2No 12V bulbs in series for anything above 12V or as in my case for 22.1V (6S) pack. You then connect the lead to the battery. Needless to say - only do this outside well away from anything flammable.

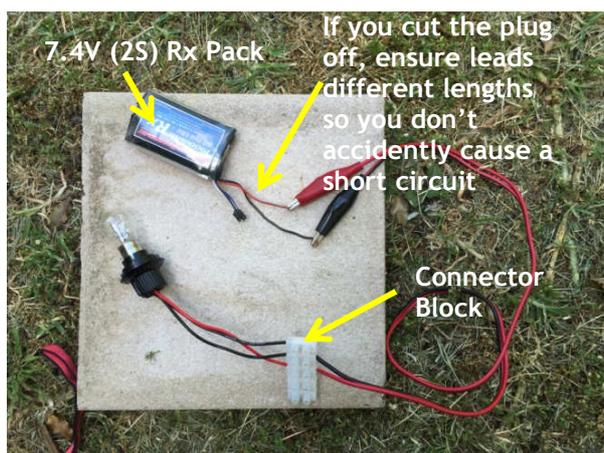


Image 1 - Discharging a 2S Rx pack

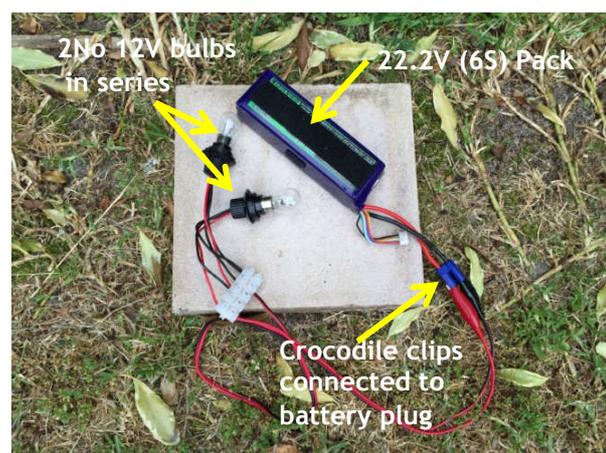


Image 2 - Discharging a 6S pack

2. The loads imposed by the light bulbs should flatten the packs in a reasonably time - 40min with my 6S but will obviously depend on how much charge there is in the battery. Because the light bulbs don't impose high loads on the packs they shouldn't get very warm or 'puff' excessively. With the batteries above they only 'puffed' slightly.

- Once the lights go out and then, very importantly, confirm the pack is at zero volts using a multimeter. The connector was then cut off, insulation trimmed back and the wires twisted together and held together with a cable tie to avoid any residual charge returning.

**And that is it - once the pack is cold it is safe to dispose of. Clean and simple.**

#### OTHER METHODS

I hear you say - what about a 6in nail or dropping the pack into a bucket of salt water.

The nail is self evident - dangerous - and salt water, apart from being messy, it simply doesn't totally flatten the pack - it does oxidise the connections which can give a false voltage reading and potentially creates more of a hazard with the chemicals that leak out of the packs - if unconvinced refer this link - here the person uses a load resistor instead of crude light bulbs and uses a nail in the pack to demonstrate how a 'soaked' pack still has residual energy.

<https://www.youtube.com/watch?v=E0dBCeOPw4c>

All links in this Newsletter pdf should work just by 'clicking' on them but if not you may have to cut and paste the links into your web browser.

And here is a link to a light bulb method based on a similar principle as I have described above:

<https://www.youtube.com/watch?v=9sVLAuopL6o>

There was no need, but as an experiment, I did cautiously puncture both the packs I discharged to zero volts and nothing happened. The 6S did expel some gas at a very slow rate- not enough to see or hear. I did wear a mask as I can't imagine the gas expelled is good for your health and another good reason not to intentionally puncture a pack. If you want to scare yourself, just Google 'LiPo Battery Fire Videos' which among other things will come up with many examples of why you shouldn't puncture a pack especially one with any charge still present.

#### POTENTIAL COMPLICATIONS!

If the pack does not have continuity - that is a cell 'errors' out with your cell tester (mandatory - you must have a tester if you have LiPos and strongly suggest a multimeter as well) and you don't get a reading across the connector - then you will need to remove the covering so you can get the crocodile clips onto the active cells. Caution needs to be exercised when bypassing a bad cell. Refer also and heed the comments at the end of the first video link above.

#### BE SAFE

Above all never trust LiPos -Unlike Lithium Ion batteries which are generally stable and found in our phones, laptops and power tools, Lithium Polymer batteries on the other hand are potentially and inherently unstable. In the context how we use LiPos this isn't of too much concern, but instability in LiPos can also be caused by rapid external temperature or pressure changes - that's why, unless an aircraft is specially equipped, LiPos are not air freighted.

Early signs a LiPo is on the way out is that it will begin to become 'puffy', also if there is any discolouration at usually the terminal end - the pack may have a 'leak'.

Finally discharging must be done outside and on something non flammable. There are also many other issues with LiPos which I may touch on in the next issue.

I hope you found this information useful but if you don't feel comfortable with any of the above seek help from others more experienced.

*While the probability is very low that a LiPo will self destruct when stored, I tend to keep my batteries in the garage and transport them to the field in this \$19.95 Bunnings metal box. The safety tape covers the edges - it would be ironic if you accidentally caught the lead on a sharp edge and shorted out a pack. And I never keep them in house.*

*Here is a link to the AMA (USA equivalent to MAAA) on LiPos:*  
[http://www.towerhobbies.com/help/ama\\_lipo/](http://www.towerhobbies.com/help/ama_lipo/)





Nick Csabafy at the scale event earlier this year with his fabulous BO 105



Phil Thornton's impressive and large Lama at the same event



Jeff's Kamov getting 'rivets' but still some work to do



Finished - On the left, Ben Klaster (who machined the custom parts for the Kamov), was there to witness the maiden flight



. . . and the reward - the Kamov's first flight

## MRCHC Inc Club Flying Rules

The MRCHC has an outstanding safety record. The safety of our members and our visitors is foremost to the Club and so the following rules are in place to help maintain a safe flying environment. Please observe the following rules at all times.

1. No member shall fly or operate their **helicopter equipment**, which has not been tested and checked prior to first flight, is obviously faulty or is obviously in need of repair.
2. No member shall fly or operate **equipment** to the danger of others or in a manner as to present the likelihood of harm or injury to person's or person's property.
3. The **Frequency Keyboard** shall be used at all times where possible for 36Mhz . NO person shall fly or operate any equipment unless the appropriate frequency key is in position on the keyboard. No person shall **remove a Frequency Key** from the Frequency board apart from the owner thereof.
4. **Frequency Keys** are not required for 24Ghz Spread Spectrum but transmitters must be on the approved list Refer [MOP 058](#)
5. Any member or visitor found to have **caused loss or damage** to any other member's Helicopter, property or equipment through unauthorized operation of their own equipment or by dangerous or irresponsible behaviour shall be liable for such damage or loss.
6. NO pilot shall take off or land in the **pit area**, fly over the pit area or the Car Parking area. Flying is permitted in Authorised flight areas only (ref. map in the Club House).
7. All pilots shall maintain 9 meter separation form their helicopters at all times
8. No member is permitted to fly unless they can be identified by **wearing a current Membership Identification**.
9. **Visitors** flying at the field must sign the visitor's book prior to flying: - Visitor Rules apply. A Current member must sponsor the visitor and brief the visitor of the club's Flying Rules.
10. A directive from a club **Safety Officer** or a Committee member shall be complied with immediately. Any dispute settled later by the committee.
11. Hovering in the **hovering area** shall not exceed 5 meters in altitude. Pilot must not hover the helicopter between the Pilot and the Pits.
12. The **hovering area** is for hovering, the model must not exceed walking pace.
13. **Mobile Phones** are not allowed on at the flight line at any time, Mobile Phones are allowed in the pits and in cars.
14. **There is to be no flying on Fire Ban days**.
15. All members who wish to fly on the **main flight** lines will require to have their Helicopter Bronze wings or greater endorsement.
16. Visitors wishing to fly on the main flight lines will be required to have a member accompany them whilst on the main flight lines until such time as they have obtained their endorsement.