



ROTOR TORQUE

April 2016
Issue 140

Official Newsletter of the Melbourne Radio Controlled Helicopter Club Inc

<http://mrchc.org.au>

INSIDE THIS ISSUE

- 2 Editor's Bit
- 2 Treasurer's Report
- 3 Vintage Helis – Why Bother?
- 5 Food for Thought...
- 7 Images
- 10 Club Rules



Upcoming Events:

5th June 2016 (Sun)

June F3C Funfly

9:00am – 12:00pm

Sportsman, Advanced and Expert Schedules

7th Aug 2016 (Sun)

August F3C Funfly

9:00am – 12:00pm

Sportsman, Advanced and Expert Schedules

2nd Oct 2016 (Sun)

October F3C Funfly

9:00am – 12:00pm

Sportsman, Advanced and Expert Schedules

2015/ 2016 Committee

President:	Jeff Sussman
Vice President:	Matt Carmichael
Secretary:	Peter Dalglish
Treasurer:	Roger Chapman (Assist: Brett Dargue)
Editor:	Daniel Rotstain
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: Jeff, our club president's neat Bell 47G.

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

Editor's Bit

Daniel Rotstayn

Well, this is only my 2nd edition as editor of Rotor Torque, but unfortunately it will be my last. Due to a change in personal circumstances, I cannot continue in my position on the club Committee. So, apologies for the rather short stint in this role.

I hope that a replacement editor can be found quickly. It's a great newsletter and we need to keep it going. It's really not much work to get it out every couple of months.

So, all the best of luck to the new editor, and please help with any photos, stories, tips and tricks that you can provide.



Treasurer's Report

Roger Chapman

Trust you all had a tremendous Easter break and were fortunate enough to get some flying in over the school holidays - this really is a fabulous hobby.

I would like to thank Daniel again for taking on the editorship and in particular for getting this issue out. Unfortunately, Daniel's circumstances have changed and he won't be able to continue. So, anyone wishing to put to use their frustrated journalistic aspirations either let me or any of the committee know. I have said this before - there are plenty of Forums out there but there is still a place for our Club Newsletter that targets just our members.

So back on topic - Club Membership still continues to grow and we have a healthy membership that now totals 62, this includes our one honorary membership being Brendon Carmichael.

Here is a summary of our current Club Finances as of 31/3/16:

Investment Account:	\$24,507.46
General Cheque Acc	\$8,745.14
Petty Cash	\$125.60 (excludes Club House Container)

Income and Expenses:
(1/7/15 to 31/3/16)

Income:	\$3,765.18
Expenses	\$2,284.98

If you have any queries, please let me know.



Vintage Helis – Why Bother?

Jeff Sussman

Those that know me, understand that I have a little bit of a passion for old helis, although sometimes I am not sure it is worth the trouble!

But, like many things in our hobby, there is a vast gap between what you need and what you want! After all, how many Goblins can you fly at one time

A couple of weeks ago, Matty came across a vintage Kavan Lockheed and sent me some pics to see if I was interested.

Kavan was one of the pioneers of the early helicopters and here is an extract from one of his newsletters from 1975:

Let me talk about my helicopters for a moment. Again, my intention was not to design and produce just any rotary wing model aircraft, but a scale model to the last detail. After a series of test flights, I succeeded in having a model helicopter that not only performs all the manoeuvres the real helicopter does, but is the first aerobatic model helicopter in existence. The history of the Kavan Bell Jet Ranger is discussed in a brochure that came out on the occasion of its wind tunnel testing. Although the Jet Ranger already seemed to perform properly and had given its owner's success at most contests and championships, this wind tunnel test appeared necessary to me. I wanted to know more about the reaction of a model when it is exposed to different wind forces, how it reacts with more or less weight, etc. The cost of the wind tunnel test was rather high, but was valuable experience gained. Not only the company, but also the model flyer will profit even more from it, and you can rest assured that in the Kavan Jet Ranger and the future Alouette 2, you have safe, fully tested models. (<http://www.vrhc.co.uk/rc%20helicopters/Germany/Kavan/Franz%20Kavan.htm>)

One of my first helis was the Kavan Alouette 2, fixed pitch with a .40cu inch motor. In the early days of the hobby, you sent back a warranty card with your details and I remember many parcels arriving with free upgrades as they were released. The head was all plastic and there were many attachments such as 90 degree adapters for the aeroplane exhausts and aluminium heat sinks to help cool the aeroplane engines. One of the updates was a metal plate to stop the plastic head twisting, but it never helped as I never even got into a sustained hover.

A couple of years later (1980), Kavan released the Lockheed with a flybarless head and retracting undercarriage. By now, mechanical tail gyros were available and with lead in the wooden blade tips this became a viable option.



Unfortunately, it was outside my price range being more than three months' salary - and having been newly married, did not want the added legal expense of an early divorce. I have never seen one in the flesh until two weeks ago, but regularly bought the hobby mags to drool though the reviews and admire the adverts.

After a couple of phone calls with the grandson of the original owner, I had this gem in my hands. It looked pretty complete although it was gummed from the castor oil residue in the engine, skids and most of the mechanical parts. Based on my knowledge of AmericanRC providing support and spare parts, I hoped that I would be able to get any critical spares it needed.

Having stripped the heli and the engine, my shopping list ended up with only two items:

- 1) A set of gaskets for the Webra 61 engine (the castor oil had killed them)
- 2) A cooling fan (suspect that it had been forced off without a hub puller and broken)

(Thanks to Gary who gave me a fan from a Kavan Shark, but the number of teeth on the pinion are different)

These have been ordered, and the after many hours of cleaning, the undercarriage retract mechanism is working smoothly. I did consider an electric conversion, but that would be against the spirit of restoring back to its original glory

You will note from the picture - this heli has no side frames. It comprises a wooden box frame and flat bed style mechanics.

It has a type of CCPM with the top servo rocking the aileron and elevator servo, so no transmitter mixing is required (lucky as it was not available for another ten years!). I will however cheat a little as I plan to use a Skookum 540 gyro but don't tell anyone.

This should be flying within a week or two of receiving the new parts and look forward to flying it.



Food for Thought...

Roger Chapman

We all share a passion for our hobby, which is fabulous on so many levels now. We are in exciting times in terms of the mechanical capabilities and advanced designs of our Helicopters and the on board electronics.

Something I used to publish in the Newsletter from time to time and is probably timely to update and republish here, is a reminder of the forces that are involved with our Helis and why they deserve our respect.

Full Size Helicopters

With the full size, if you attempted to lift a Heli by its blades they would fail - the outward pull from the blades when rotating is many tons and far exceeds the mass of the fuselage which is being lifted. The centrifugal force straightens the blade from the drooping position and provides the 'strength' for 'lift'. It is for this reason in areas of extreme weather, parked helicopters have their blades tethered to the ground or back to the fuselage to avoid the wind lifting the blade and causing damage.

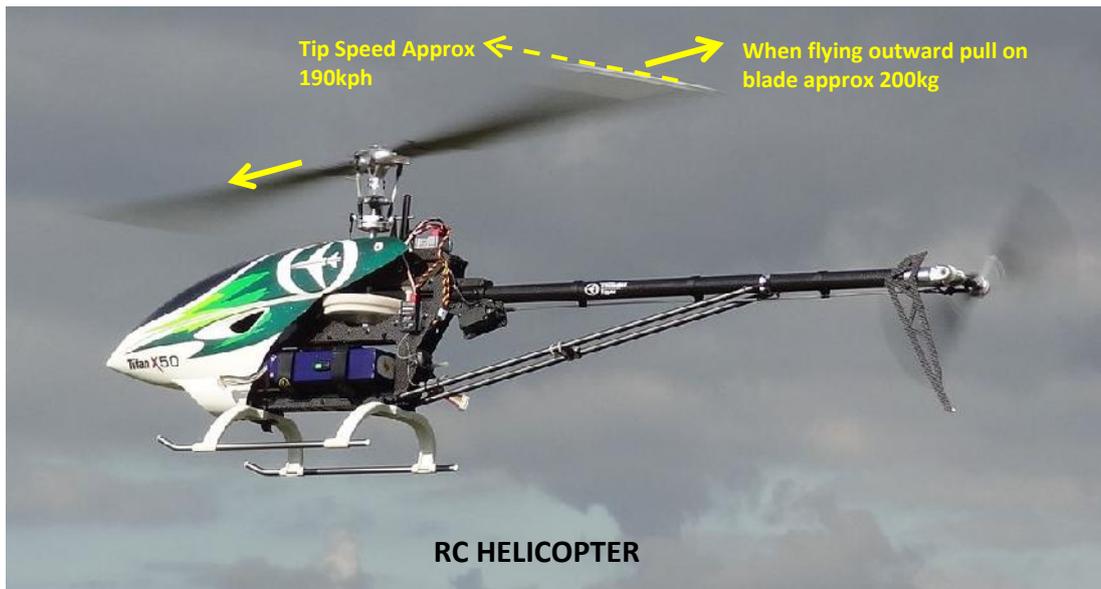


RC Model Helicopters

The description above for full size Helis equally applies to our models. With the blades stationary and even though rare these days, if you lifted a Heli with timber blades they would most likely break. With Carbon or fibreglass blades, if you were silly enough to try you would risk causing delamination within the blade.

But when the blades are rotating, the same physics are involved as with the full size. The outward pull of a single blade on the bolt holding it to the rotor head can be as high as 200kg (more than enough to lift any one of you) and the tip speed is in the order of 190kph. Now while the maths may vary depending on model size and rotor speed etc - you get the drift.

Without wanting to scare anyone or meaning to put you off our hobby all together, it really is like flying a chainsaw!



So What Does this all Mean?

Our Club has always prided itself in terms of observing and implementing safety protocols which have served us well. As far as I know there have been three deaths - three deaths too many and from all skill levels - so the risk is not just in the realm of the novice who might lose control - a reminder of potentially how lethal our hobby can be.

Having established why our Helis should deserve our respect and without knowing the details of the tragic accidents that have occurred, the most fundamental safety protocol we need to all observe is a safe separation between us and our models. In the full size realm, it is referred to as keeping outside the 'Deadman's Curve' or 'Coffin Corner'. That is, to avoid flying within the parameters that don't allow for error. For full size, the obvious example is airspeed and proximity to the ground. Often at airshows, stunt pilots are flying within the 'Deadman's Curve' - meaning there is no room for error or mechanical failure.

In our context, arguably the 'Deadman's Curve' is being too close to the model. While rare these days, unexpected radio or mechanical failure and even dumb thumbs, if you are too close to your Heli regardless of what mode of flying you are performing, potentially places you at risk of personal injury or worse.

There are other safety protocols of course that you should all be familiar with and which are covered in our Club rules printed at the end of every Newsletter.

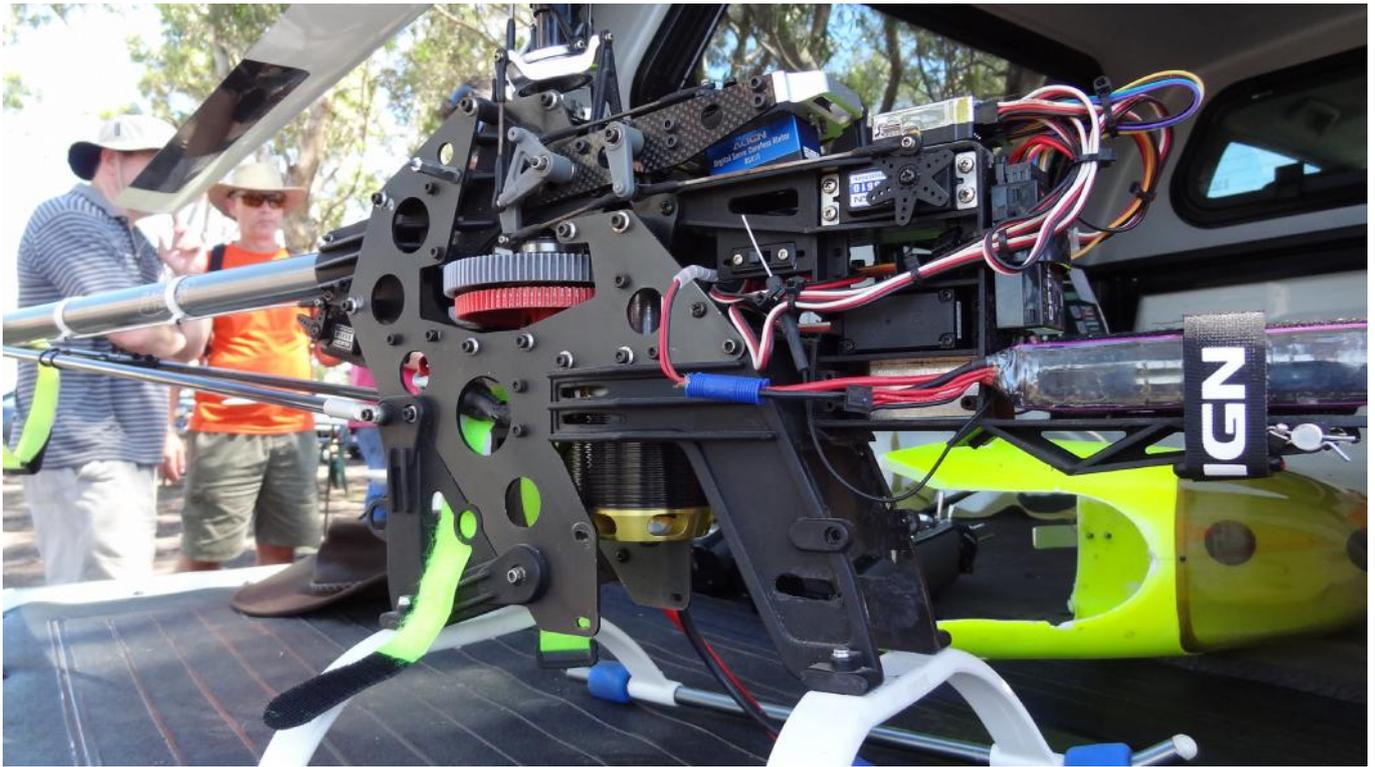
The above is not meant to be a 'downer' but as stated at the beginning - we all enjoy a fabulous hobby, but having said that, it does deserve our respect when it comes to safety.



Peter Walker's Turbine



Peter's Turbine settling after a flight



Peter McNiff converted his old Raptor 90, revitalising it as an electric



Roger's old bit of technology - a Raptor 50 that still flies nicely!



Matty, our Vice President's cool 3 blade Sylphide

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.