



ROTOR TORQUE

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Official Newsletter of the Melbourne Radio Controlled Helicopter Club Inc

<http://mrchc.org.au>

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Vice President:	Ant Sisley
Secretary:	Peter Dalglish
Treasurer:	Roger Chapman (Assist: Brett Dargue)
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Contest Director:	Phil Coghill
Committee Ordinary Member:	Ben Boldeman
Safety Officer:	Nabil Abdulbaki
Event Coordinator:	Ray Close
VMAA Rep:	Daniel Harding
Website Administrator:	Roger Chapman (Ben Boldeman -Tech)

Upcoming Events:

5/2/17 Fun Fly, General/ AGM Meeting

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

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

Editor's Bit

Ray Close

Well, It's the start of a new year and hopefully one that's going to be hugely successful for us all.

There are many things to discuss in this edition but perhaps one of the most important things is the section about testing for radio failsafe.

This is not just for the safety of our club members but also the safety of the general public who attend the water sports centre. As we all know new developments are occurring and it could be disastrous if a stray model ended up in that area.

Special thanks and congratulations to our new safety officer Nabil who contributed many high quality images and an entertaining narration - have a look at Nabil's Corner.



Treasurer's Report

Firstly, I hope you are all enjoying what so far hasn't been an extremely hot summer. Not like me but I managed to get 3 days in a row flying and had an absolute ball.

Christmas has now been and gone, it's time to embrace 2017, and here we are 1 month in already. So to those I haven't caught up with, I wish you and your families a very happy, healthy and safe 2017 and look forward to hopefully getting down to the field more often this year.

So on with my report; The Club Membership as of the end of January 2017 totals a healthy 50.

The Club Finances for the end of January is as follows:

Investment Account: \$32,735.80
General Cheque Acc \$2,845.24

Petty Cash \$101.70 Cash
(Excludes Club House Container and money collected to be banked)

Feel free to contact me if you have any queries.



Thanks to Nabil thought I would share this view of my Align Dominator Trex 700 (Align make sure you can't miss the name) - one of the Helis I flew 3 days in a row.

Presidents Report

Jeff Sussman

It is no secret that the model helicopter industry has been in decline for the last few years matched by the rise of interest in the drone market. It has been a challenge to the local hobby shops with many of them throwing in the towel

Yet, where there is value add they survive and grow strong, with new manufacturers growing market share and local hobby shops are still around. Our club has maintained its strong membership and the flight lines are just as busy with new pilots and old working on improving their flying skills

The same value add that makes a brand and a hobby shop appealing, is the people in the club and the camaraderie and spirit in the club. Our club has developed a culture that will stand it in good stead in the future by maintaining existing membership and hopefully growing through new members

I look forward to another successful year for this great club

Manufacturers Responsibility

Jeff Sussman

In late November 2016 I crashed two scale helicopters in one morning. While it is always sad to see hundreds of hours of work going to waste, my focus is always to find out what has gone wrong. Like the Air Crash investigators some causes are obvious but other times it can be more of a challenge. The reason though is the same - to try to make sure it does not happen again.

Starwood Huey with Len Mount Mechanics

With the Huey 1C, I had an accident around September 2016. I had switched into idle up while in a hover to be met with an instant roll to the left and a crash that destroyed the top section of the fuselage. At the time the only explanation with that with an aggressive speed controller and a right hand blade rotation (2m diameter rotor), the gyroscopic forces of the speeding up blades produced a left hand reaction and a subsequent roll. There appeared to be no other explanation.

After many hours of repair and with a Castle ESC set to the softest settings, it was time for test flight. The heli took off smoothly but after a while in the air, it was subject to over correction from the gyro and started to wobble around. I immediately prepared for landing but was not fully level when I landed and again had a blade strike consistent with a roll to the left. While there was much less damage this time further inspection and a new set of eyes from Phil Thornton revealed the root cause!



In both of these accidents, the cause of the crash was the base that the mechanics was mounted to the fibreglass body has broken loose. The first time the additional torque has caused the failure and the second time the uneven landing had caused the failure. I have now rebuilt the base from thicker ply and have used carbon fibre tape and fibreglass to reinforce the joint. I have also added cross braces to manage any twisting of the box - third time lucky?

So my question is - why did the manufacturer supply such thin plywood and why did they not recommend reinforcing of the joints?

I'm not expecting a response anytime soon.....

Sikorsky S-34

A while ago I acquired a scratch built fuselage that was a one off model copied from a plastic 1/48 kit.

The model was carved from foam and then had a thin layer of balsa wood and fibreglass as the outer skin with the original foam then removed.

The uniqueness of the model was the major attraction and I was able to complete the project from bits and pieces lying in my garage.

The mechanics came from an old Hobby King Trex 600 frame set and I had a Sportsmoto 600 size 4 blades head and a no name brand 4 bladed tail. I also used an old Skookum 360 two axis gyro and a Futaba 401 tail gyro.

I found a colour scheme that was visible and yet simple and with the help of John Finney doing some graphics put together a good looking heli based on the 80-20 principle where 20% of the work usually provided 80% of the scale effect.

The first flights were uneventful and it trimmed into a sedate model that really looked good in the air.

On that fateful day hover I selected a wrong model and in this config the tail was reversed. (I wish Futaba would implement model match!) and the head speed was 5% higher (flat line 75% as opposed to what should have been 70%)

As the tail swung on take-off, I reduced throttle quickly and what followed was a bang with the model deconstructing itself back into pieces of balsa and fibreglass. Fortunately we were all far back and the blades which had disengaged from the head flew harmlessly into the grass.



I don't usually bin this type of crash but in reality it was beyond repair
So, what caused it this time?

A Raptor 50 shaft of 6mm diameter gives a cross section of approx 28 sq mm
The Sportsmoto shaft of 7.5mm gives a cross section of approx. 44 sq mm, but with the 3.5mm diameter bolt pinning the shaft to the head, leaves a cross section of approx. 17 sq mm
The resulting cross section of shaft (approx. 60% of the size of a Raptor 50 shaft) was a failure waiting to happen and a 10% increase in head speed with a sharp decrease in throttle was enough to shear one shaft with corresponding one going soon after and the head causing the heli to explode

Responses from the Local Hobby Shop when I sent pics of the broken shaft was (and I quote)
"I am no engineer and supply what is available on the market"

Again I'm not expecting resolution anytime soon..... but I think Consumer Laws in Victoria would hold the Hobby Shop liable for damages due to selling goods that might be deemed not fit for purpose. I say this based on another local hobby shop a while ago having to compensate a purchaser of a Trex 700E for crash damage where the tail rotor failed and was subsequently upgraded to remove the step down on the shaft.

SAFETY – TESTING FOR FAILSAFE

Ray Close

Is your failsafe set correctly on your transmitter? As mentioned in the editors section above we have to be more vigilant than ever before when it comes to failsafe testing.

To explain failsafe, think of what would happen to your model if suddenly your transmitter battery went flat. If the model went out of range - or if your transmitter suddenly malfunctioned. The probability of the above occurring is actually quite significant.

HOW TO TEST FOR FAILSAFE:

Make sure model is DISARMED (battery disconnected).

Remove MAINS and Tail blades.

Make sure the helicopter is secure (so it will not tip), have your transmitter switched on with the correct model selected and connect your battery or start your engine.

Step back approx. 3meters from the helicopter.

Switch off throttle hold to power your model. Your heli should be spooled up to flying RPM.

SWITCH OFF YOUR TRANSMITTER!. The helicopter **should depower**. If it does not depower you need to configure it so it does.

If you have trouble understanding this, see an experienced club member who can help.

Flying Field Frolics



Shown above is Mick Stefanis new logo. By observing how the helicopter moves in the air it posses a very high power to weight ratio which is perfect for 3d.



Shown above is my new Goblin 420. This helicopter so far is my perfect small model smacker. Quite light, hopefully as reliable as the 380 and most parts are interchangeable with the 380

NABIL'S CORNER

Firstly I would like to thank NABIL for this contribution. His photographs and narrations are both spectacular and entertaining. An archive of Nabil's flying journals can be found here - <http://www.heligods.com/forums/nabils-corner.411/> Note that the heligods forum is doing well internationally and Nabil has over 1000 views on his articles within a couple of weeks.



The good old T-REX 700. Keep an eye out on Align helis this year. They are releasing several new models.



Mick3d-Low Down SSmaking!!

Saturday night - (the calm before the storm).... the silence deafening whilst i perform last minute heli maintenance and charge up my receiver and transmitter packs. I throw in a few final sim sessions for good measure before retiring for the night. Saturday with family at the beach sets the scene for a full Sunday of flying and an early start to boot!

Plans to hit the Marcs flying field for the first half of Sunday are destroyed late Saturday night after realising some photography gear left at the Mrchc field on Friday night. Inevitably, revert back to plan A.

Arrived at a picturesque Melbourne radio helicopter club at just before 7am. The morning dew and fog had mostly lifted, conditions were perfect (no wind, no clouds, and pleasant temperature conditions) and further improvements for the day were forecast. I thought to myself - Action and Attendance factor today? -- "VERY HIGH"- yes sireeee



I assess sun position (whilst sipping on my hot coffee) and decide on the back flight line to best manage glare from the early low level sun. The field had been freshly mowed and the smell of freshly cut grass and surreal conditions beckon me on. This was going to be one **HELI** of a day!

I wasnt wrong!

I manage 3 low key flights and then --- enter Brian Johnson with his compass 6hv and goblin 630). Its also not long before Mick Stefani (logo700 and Gobin 630) and Gavin (mini protos) also arrive (now 9:30am).

There arrival is followed on by an entourage of fellow pilots all of whom, no doubt had also succumb to the perfect flying conditions to be had and the week long growing desire to fly our treasured helis again.

The mood on site literally transforms from one of excitement to sheer exhilaration with the addition of Michael Naylor (logo 800 extreme, kyle stacy goblin 630), Tony Hilton (soxos db7, mini protos, synergy e6), Ben Bolderman (goblin family) and Tom standing (goblin blck thunder and logo 700) now added to the flight line and the amazing flying that would follow! For the second time today (reflecting back - i was right again).

The first of the f3c and scale fliers had also joined our band early today (around 1030am) including Paul Ukov, Gary Canon, Jeff Sussman and Ant Sisley

Later in the day Ray Close and Sean Hodge from Zenrc also arrive. The field felt like a fattened up pig with so many attendees ready for the carving.... It was great.

With a large attendance, 2of the avail 3 flight lines received good use for the most part of the day. At times, the sound of blades farting from all fliers , high pitch Goblin screaming tail belts and tail blades, buzzing Logos echoed from all corners of the field. If you were one of the lucky ones there, you would not be wrong in thinking this was bliss!

Compass, Goblin, Mikado, Msh, Soxos and Trex helicopters were all in strong presence and littered throughout the pit area.

Brian Johnson flew the compass 6hv very fast, hard and low early in the day. He made flying in morning glare look effortless. Bryans 6HV looked the goods and flew just as controlled, intended and smack hard as when the last time i saw Mick Dee fly his.



Mick Stef and Tom Standing put there magestic logo 700s and Goblins through there paces throughout the day. Mick Stefs flying was powerful, bold and accurate. Bold fast speed runs, inverted funnels with very smooth transitions to upright funnels to complete very clean and pro looking fig 8 funnels, some very nice tic tocs and push outs with piro transitions. Micks also flew his goblin 630 and his flights again were very accurate and enjoyable to watch. Mick had his logo 700 and Goblin heli positioned where he wanted them! Very nice indeed!



Tom was back at it again with his Logo 700 and if he wasn't flying low, he had his log 700 and Goblin Black Thunder zipping across the sky , spinning into pirouettes and transitioning out with half piro flips. Good solid stuff there as always!





I hadn't seen Tony Hilton in a while, although i am guilty of regularly messaging him on a late night to draw on his wealth of knowledge regarding the Brain (gyro) and Synergy helis in general. Tony put in some great flying during the course of the day.

The highlight for me was when Tony performed some amazing looking piroflips with his Soxos DB7. They were near perfect. The Soxos appeared to rotate in what seemed to be a perfectly centered and stationary invisible axis as it flipped inverted and upright again. It also stayed almost vertically centered.

It was the cleanest and most symmetrical piroflip i had seen Tony perform to date! Really inspiring stuff mate. Going to have to put more hard time in on my piroflips having seen that! Although I suspect the great heli geometry inherent in the DB7 had some small part to play too. Despite Tonys absence from MRCHC in recent times, Tony didnt seem to have lost any of his flying form.



Ben Boldeman also put in some quality hard smack 3d flights over the course of the day across his full heli fleet range which was nothing short of inspirational to watch. Some great low down off the deck smacking by Ben really had me revved and fired up for the following flight!

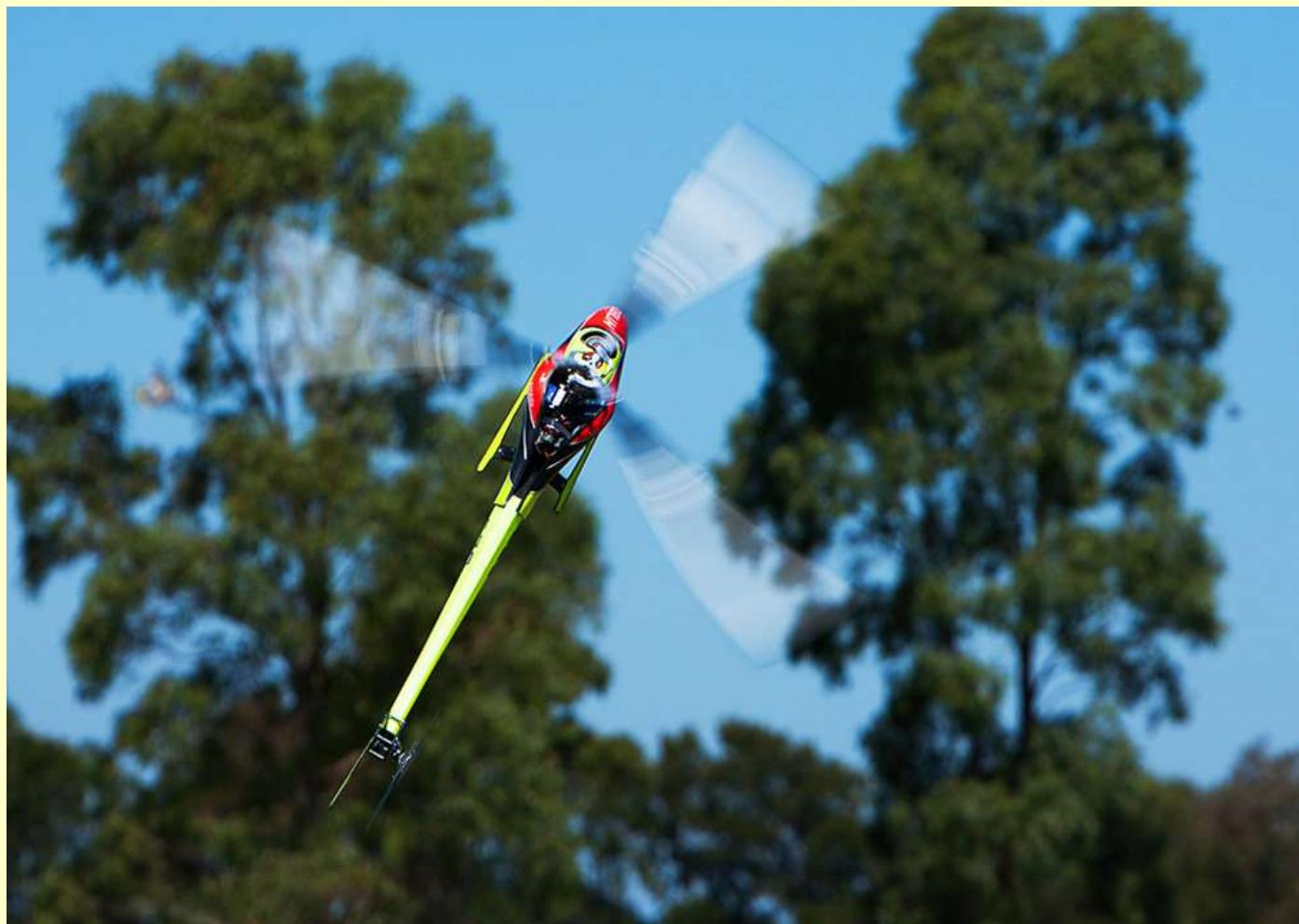


A nice interlude during the middle of the day saw Jeff Sussman bring out his scale heli and fly it beautifully through the field. I had to take some good shots of this little beauty.



Enter Mick 3d with his Goblin and BIIIIIGG BEERRTHAAA (logo 800 extreme or as I more aptly put it - scale heli flying its heart out trying to be a 380). Mick3d put on a real show with both his goblin and the logo 800 extreme. Who sad you shouldnt fly helis on bad packs and beat them to within an inch of exploding? LOL I wish I had recorded some of your flights.. Maybe next time.

As always some absolutely astonishing and amazing flying by this young man! Even if he is out off road bike riding 90% of the time! Hehe





Sean Hodge also put in some flying during the day and his blue Goblin looked Smacktacular in the air.



I managed to get some good air time during the course of the day. Thanks very muchly to Sean Hodge from Zenrc. As you may have recalled, I had some issues with my new Brain2 on the 500L that ultimately had to be sent back. Sean was only too kind to loan me an Ikon to use in the interim period for my replacement to be provided. Very gentlemanly for sure!. I managed to setup the Ikon on Friday night and after a few tuning flights in glaring morning conditions managed to get the 500L dialled in nicely. Roll rates on the 500 at 480 both aileron and elevator, piro rates up to 500 from memory, a bit down on tail gains from default and she was locked in. No changes to P I or D.. She received some nice smack spanking during the course of the day as thanks!. I think Sean received first hand knowledge that the Heli was in good shape and needed that Gyro sorted LOL.

I also flew the 600L dominator during the course of the day also in between all the Logo, Goblin, Synergy, Compass porn. Whilst my Trex's aren't the glamour that surrounds other brands, they have thus far handled my increasingly developing aggressive type of flying. LOL.

Sean also managed to get to me all the Synergy E7se parts I needed and so the rebuild of the E7se has begun folks. Keen to remaiden in the coming week or so.

Just as 3pm rocked up and after many flights by all (I think I was at around 20flight at this stage), Phil Coghill, Brendan and Peter show up for some calmer more relaxing f3C flying. I was the perfect way to wrap up the day. An hour or so later and most of the entourage were in the process of leaving for the day or had left already. But not before Peter put on a show by setting up his 18pound thrust turbine engine he had recently acquired. HE proceeded to run the engine in to the total surprise of everyone.

[MEDIA=youtube]Jhr7wAV5k0o[/MEDIA]

This thing was loud and powerful. Cannot wait to see what model this beauty goes into!



After 20 or so flights in direct sunlight and warm conditions, flying had taken its toll on me and I reverted back to some tame flying style, focussing more on single tricks like pogo piroflips and just general flying. It also gave me the opportunity over a few flights to increase my flip, roll and piro rates on the 600 to make it feel more like my 500s super quick moving off centre.

Peter asked for some guidance on piroflips so during my last flight I broke the piro flip into the 3 key moves during my flight slowly describing timing and keying off elements. It was a nice way to wrap up the day.



Michael Naylor



Sean Hodge



Mick Stefani



Tony Hilton



Brian Johnson

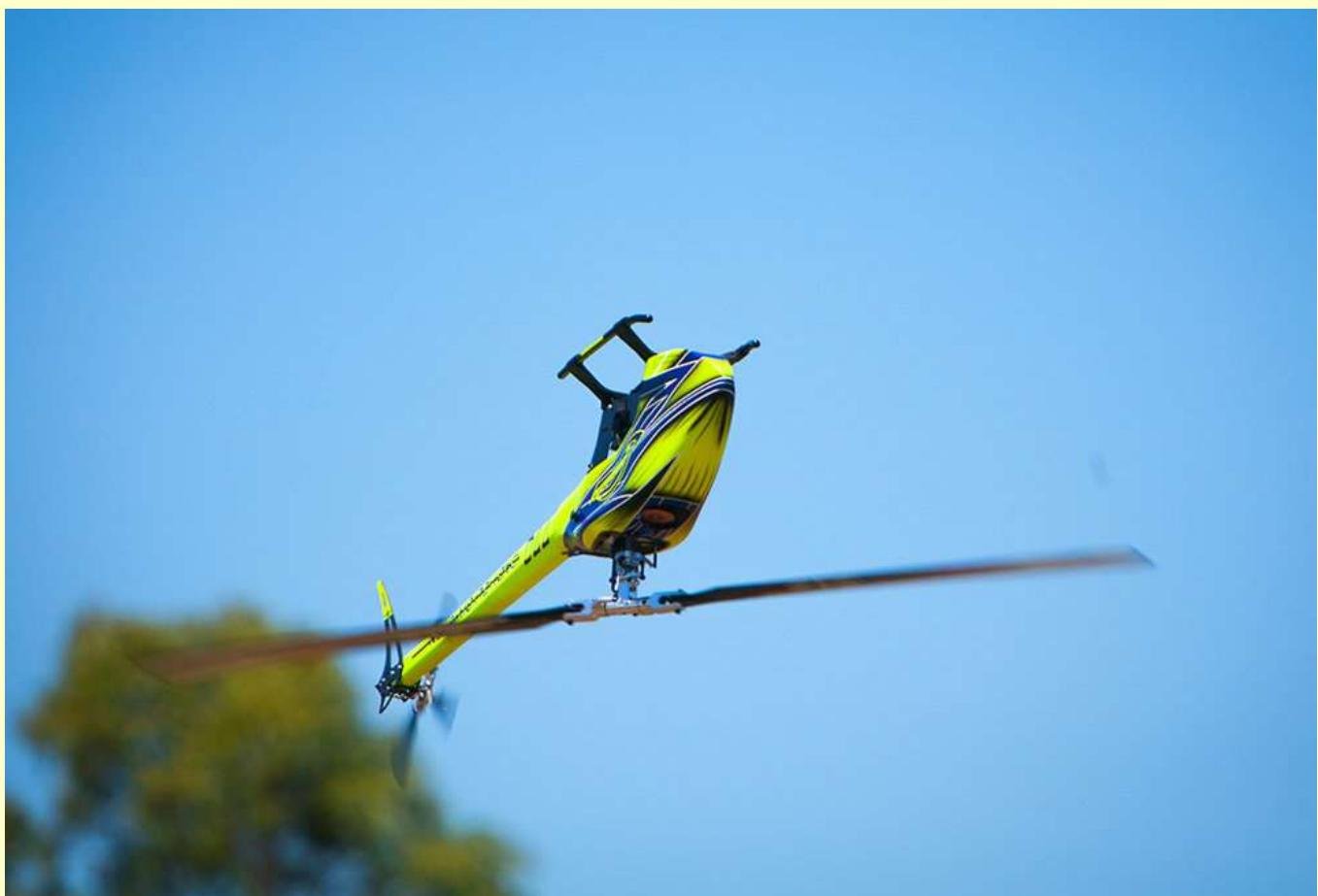




Ben Bolderman













Field photos





Phil Coghill



Beginners Tutorial. How to progress from tail in hovering to Figure 8s

This is a video I made some time ago on how to progress from a tail in hover to figure 8s. NOTE that I cannot emphasise enough how important SIM time is. Its critical to developing your hand-eye coordination. If you want to be proficient in your flying, for every hour spent on the sticks you should spend 5 on the sim. And advisable to do a little every night rather than all in one hit. Note you will need an internet connection for you to view this video.



https://youtu.be/MvX_csNxs0w

The transition from tail in hovering to figure 8s is a very important and critical milestone. To become competent it takes time, perseverance and repetition using both the simulator and real time flying. Hand/motor skills are learned through repetition on the simulator. The simulator provides a layer of confidence so when it comes time to perform the manoeuvre for real your training should kick in.

Don't think that figure 8s are simple either. If you are to perform fast - knife edge figure 8s are very difficult to keep symmetrical and level.

F3C - PRESERVE THE PASSION

F3c is an important part of the clubs history and we all should be aware that it's a discipline. While to the onlooker it may not posses the same dynamics as 3d, it still requires an incredible skillset and needs many hours of training in order to perfect.

We have some very talented and dedicated people at our club who are allways pushing themselves and enjoy the competition.

Due to drones and 3d, the F3C discipline has taken a bit of a hit. But its important not to let this heratiage go.

GENERAL BOUNDRIES

Again a re-iteration of the flight boundaries. If you start to deviate outside the flight path for **any reason** **throttle hold the best action to take**. A depowered helicopter will do significantly less damage than a powered helicopter. **CHECK YOUR FAILSAFE - YOUR THROTTLE HOLD AND RANGE CHECK.**



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.