

AUGUST - SEPTEMBER 2011

# THE TINGALPA TRANSMITTER



Tingalpa Model Aero Club Inc

## Peter Cutler Memorial Trophy 2011: Lionel Weeks



**Annual General Meeting & Dinner**

**3rd September, 3pm**

**TMAC Field**

**RSVP 28th August**



## President's Report: Will Sipma

Re-capping on the last newsletter I would like to re-visit the following items;

**VOLUNTEERS** It would be great to see members come forward and join our volunteer workforce, perhaps with a thought to becoming a Committee Member or even President in the future. The TMAC has been successfully managed by volunteers as part of existing and past committees, as well as those who prefer to involve themselves in the maintenance of our facilities, which has put the club in a very secure position. For this to continue members who are passionate about their sport and club should come forward, this is what makes a club so successful.

**TETHERED CAR CLUB** As members are aware the car club is going ahead leaps and bounds – a question that has been asked is how come the car club can do so much in such a short time and appear to have unlimited funds. The answer is; they received substantial \$ compensation from the company building the Airport Tunnel for the relocation of their facilities.

**MAAQ GRANT ASSISTANCE** Through Red Tape Busters TMAC has applied for a grant to purchase a new Hustler mower. The grant application is currently being accessed by the Gaming Commission and as soon as we hear anything members will be advised.

**AIR-SHOW** A very successful air show was held by TMAC on May 22<sup>nd</sup> – the ground crew on the frontline did a sterling job as did the commentators and pilots - unfortunately lack of support by volunteers to look after the parking and collection of monies for the “Disaster Fund” was not up to our usual standards. The day was a great success for the Lions club and they have indicated their willingness to be involved in future events.

**THOSE MOUNDS OF TOPSOIL & SAND** Brisbane City Council was instrumental in organising supply of the topsoil and sand as well as the crew and machinery required to spread into the “wet spring” areas at the western end of the runway. It appears at this stage that we have been successful in finding a solution to this problem.

**BRISBANE CITY COUNCIL COMMUNITY GRANT** There is going to be another round of Community Grants available for Sporting Clubs who lease land from BCC. TMAC plans to lodge an application to extend the new fence line at the Western end and depending on funds available replacement of chain wire on the front fence from Pitts' area to Eastern end. The same criteria apply – BCC funds the materials – TMAC supplies the labour.

**NORFOLK ISLAND COUNTRY MEMBERS** I had an opportunity to travel to Norfolk Island and whilst there met our country members. Allen Danvers and Bob Romano have visited in the past and have enjoyed the hospitality of our country cousins. They are just as passionate about the sport as we are here on the mainland, except they still have to pick up cow poo as we did in yesteryear before being able to fly on their main strip. Any members planning to holiday on Norfolk should make the effort to catch up with these guys.

**FAMILY FUN DAY** Sunday 14<sup>th</sup> August TMAC will have an information stall at the AMF Cannon Hill Ten Pin Bowling car park. This is a community event and anyone interested in helping out on the day, your assistance would be much appreciated. Please contact [president@tmac.asn.au](mailto:president@tmac.asn.au) or phone 3901 2208 Mobile 0409 852 694.

**AGM & DINNER** As noted on our web page the Annual General Meeting followed by our September General Meeting will be held at our TMAC facilities in the bistro area, commencing at 3pm. The meetings will be followed by dinner. RSVP for the dinner for catering purposes is the 28 August to Committee Members – email [president@tmac.asn.au](mailto:president@tmac.asn.au) or phone 3901 2208 Mobile 0409 852 694. BYO drinks and chairs. For the golfing folk and others there will be a nearest the pin competition held after the meetings and before dinner and the winner will receive a prize.

Great flying and volunteering.

## Secretary's Report: Kevin Dodd

Following the 2011 MAAA Council Conference in May the MAAA Insurance has been put in place for the 2011/12 period through Willis Australia. While there was a small increase in the overall cost of Insurance for the next period the MAAA fees for the coming year remain the same. There is, however, one change. For many years now the MAAA Senior and Pensioner Fees have been the same. It was decided by Council that the Pensioner category would no longer exist and in future would be just Seniors. Clubs and States can continue with their own classes of members if they wish, but the MAAA membership card will show them all as Seniors.

The TMAC renewal period is well underway and members are reminded that their current 2010/11 membership expired at midnight on 30 June 2011. A current TMAC receipt indicating that fees have been paid for 2011/12 (until a membership card has been received) is required for continuation of insurance cover.

Aeromodellers of Western Australia (AWA) presented a submission to the 2011 Council Conference to introduce Park Flyer membership into MAAA. This submission outlined in detail the reasoning for such a membership scheme, along with its implementation and policing, based on investigations with Local Government Councils in Perth. The key to success lies with those Local Government Councils who are willing to make some of their recreational space available for Park Flyers, and then police the activity.

The MAAA Council agreed to allow a trial introduction of Park Flyer membership in Western Australia only, to be reviewed at the 2012 MAAA Council Conference. The details are still to be finalised but it is likely to have significant weight and power restrictions and a separate insurance policy providing only minimum essential Public Liability cover.

Included in this edition of the Transmitter is a nomination form for TMAC Committee positions which will be voted on at the AGM to be held at the TMAC flying facility on the afternoon of Saturday 3 September. The President will provide further details of the AGM in his report. Also included is a nomination form for the TMAC Life Member Trophy. Nominations for the Life Member Trophy should be received by the Secretary no later than 31 July 2011.

Due to increasing work with my other position I will not be standing for re-election for the 2011/12 period. It has been a pleasure once again to serve on the TMAC Committee and be part of the ever increasing development which is taking place.

One such proposed project within this development is the renovation of the old dairy 'cream room' located outside the TMAC area at the left of the western end of the field. This is to be a project undertaken by TMAC and hopefully funded by local business, for the community. If any members are interested in lending a hand with this project then please contact me.

## Mini Airshow 22nd May



### Editors Note:

If you attended the day you were probably caught on candid camera. You can see some more snaps on the TMAC website, and some further photographs and video are available at <http://www.youtube.com/user/clairbear00>

## Peter Cutler Memorial Trophy

Sunday 19th June witnessed the awarding of the Corporal Peter Cutler Memorial Trophy in conjunction with the annual Scalefest weekend.

For those who are unaware, the Peter Cutler Trophy is a 2 part award, one being a perpetual trophy and the second being a trophy kindly donated by the family of Corporal Peter Cutler to TMAC each year.

Peter Cutler was a keen modeller and member of the armed services. He unfortunately lost his life in a freak accident during a training exercise.

This event is open only to TMAC members and is based primarily on static judging, with the proviso that the model must also demonstrate its ability to fly.

This year the award went to Lionel Weeks for his meticulously prepared Tiger Moth. Congratulations to Lionel on yet another fantastic model and to every one else for the high standard of entries.



## Unusual Model Day: Sunday 17th July

Some keen members gathered to share their unusual models on Sunday 17th July. Although the weather leading up to the event was reasonably uninviting, the day itself turned out to be quite pleasant for flying.

Ray Perrin got "the nod" as the winner on the day.

Thanks go to Allen Danvers for arranging the event.



## Getting The Most From Your Batteries: David Morrison

This article is not about battery handling safety; battery manufacturers write plenty about that and usually supply it with their product. This article is about tips and hints to help you get the longest life from your batteries, and minimise the chance of losing a model due to battery related issues. The types of batteries that will be discussed are Nickel Cadmium (NiCd), Nickel Metal Hydride (NiMH), and Lithium Polymer (LiPo). These are the types of batteries that a newcomer to radio control aeromodelling will most likely find themselves dealing with. I am not an expert with a professional background in electronics or battery technology. I am an aeromodeller who researched this subject for his own needs. This article is a guide to best practice, as I have been able to determine it.

### Definitions

There are a few terms you should be familiar with when it comes to your batteries. Understanding these terms will also help you get the best from this article.

**Cell:** A cell is a device that produces electricity.

**Battery:** By strict definition a battery is a device created by joining a number of cells together. However it is quite common to hear a single cell referred to as a battery.

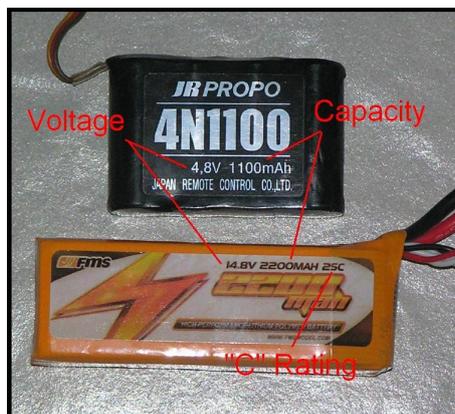
**Voltage:** Electromotive force is measured in Volts (abbreviated to V). Put simply, voltage can be thought of as the “pressure” in an electrical circuit.

**Amp/Ampere:** Is another measure of electrical current and relates to the number of electrons passing a fixed point each second. If one were to imagine an electrical circuit as a waterway, the voltage would be the strength of the current and amperage would be the volume of water flowing.

**Capacity:** The stated capacity of a battery is indicated in Ampere hours “Ah” or milliamp hours “mAh” (1 milliamp = 1000<sup>th</sup> of an Amp). Example, a 4.8 Volt 1500mAh battery is designed to be able to deliver a 4.8 Volt current for one hour under a 1.5Amp (1500 milliamp) load. If you were to demand a 750 milliamp load (half of 1.5Amp) this battery would last for 2 hours before going flat. Similarly, if you were to subject this battery to a 6Amp load (4 x 1.5Amp) it would go flat in 15 minutes (1hour **divided by** 4 [times the rated capacity]).

**“C” Rating:** “C” refers to the capacity of the battery. On the labelling of some batteries, particularly LiPo batteries, you may see a rating along the lines of “20C” or “20-30C”. These “C” ratings relate to the load the battery is designed to endure. For a 2000mAh battery a 20C load would be 40Amps (20 x 2000mAh[2Ah]). A 30C loading would be 60Amps (30 x 2000mAh). If only one value is stated, say “20C”, it typically refers to the continuous current the battery can endure. When a rating is given as a range, such as “20-30C”, the lower number refers to the load that can be continuously sustained, while the higher number refers to the “burst” current – a load that can only be sustained for a few seconds.

**Series and Parallel:** Series (“S” in abbreviated form) refers to a method of joining the cells together so the end result is a battery of higher voltage. Parallel (“P” in abbreviated form) refers to a method of joining the cells together so the end result is a battery of higher capacity. It is possible to join cells together in both series and parallel within the same battery, for example you might see a LiPo battery referred to as an 11.1V 4000mAh 3S2P. A battery labelled as such would contain six 2000mAh cells consisting of two sets of three cells in series, joined in parallel (3 “Series”, 2 “Parallel”).



### Voltage is not constant

A typical NiCd or NiMh receiver pack will have a rating of 4.8V or 6V. These batteries are made up of 4 x 1.2V cells or 5 x 1.2V cells respectively. The 1.2V rating could be considered an average while the cell is in use. A NiCd or NiMh cell (in good condition) has a voltage of around 1.45V when fresh off the charger. So a freshly charged 4.8V receiver pack has a voltage of around 5.8V (4 x 1.45V).

Similarly, LiPo cells have a working voltage of 3.7V but come off the charger at 4.2V. A freshly charged 3 cell 11.1V Lipo (3 x 3.7=11.1) has a measured voltage of 12.6V (3 x 4.2).

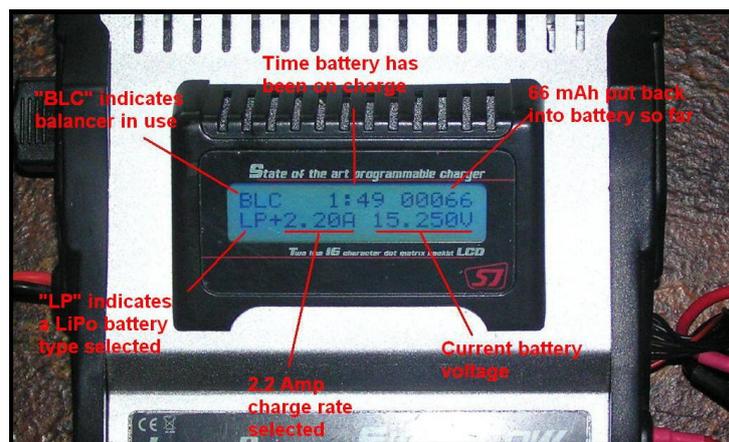
As a battery's capacity is used the measured voltage will decrease. A NiCd/NiMh battery is considered fully discharged at 1.0V per cell. A LiPo battery is fully discharged at 3.0V per cell. Pushing a battery beyond this can result in permanent damage.

### When to charge your batteries

Whatever type of battery you are using it is best to charge them within 12 hours of going to the flying field. For NiCd/NiMh batteries this is because they have comparatively high self discharge rates when left sitting on the shelf. For LiPo batteries it is because leaving them fully charged reduces battery life.

### Charging

The battery chargers that come with transmitter/receiver bundles are usually of the "wall plug" trickle charging variety. Typically these charge the batteries slowly at around 1/10<sup>th</sup> C (e.g. a package that comes with a battery of 1500mAh capacity may include a charger that charges at 150 milliamps per hour). Initial charging for 14-16 hours is usually recommended to overcome any inefficiencies in the charging process. These chargers usually do not shut off automatically but due to the slow charge rate will generally do no harm if the battery is left attached for longer than required.



Wall plug charger (left) and more advanced charger (above).

In time most aeromodellers will probably purchase a more advanced charger. If you intend to use LiPo batteries, a quality charger with an in built "balancer" is strongly recommended. In short, a balancer keeps the cells in a LiPo battery at similar voltage levels. This reduces the risk of battery damage and fire.

With a more advanced charger set your charge rate to 1C. For example, set a charge rate of 1.5Amp (1500 milli-amp) if your battery is of 1500mAh capacity. (Note: Some LiPo batteries have manufacturer's approval to be charged faster than this but it is likely to reduce battery life if done frequently).

If you are using a more advanced charger, do not attempt to charge a Nicd/NiMh battery at 1/10<sup>th</sup> C as the included charger may have done. This is because most chargers incorporate a "peak detect" mechanism to stop charging when the battery is full. Charging a battery at less than 0.5C greatly increases the risk that a peak will be falsely detected causing the charger to stop charging prematurely.

Be aware that the power consumption may increase as you become more familiar with a model and fly it more aggressively, or in windy weather if you apply extra throttle to maintain groundspeed while flying upwind.

## Getting The Most From Your Batteries (from page 6-7)

### Between flying sessions

Modern manufacturing has virtually eliminated the “memory” effect that used to be associated with NiCd/NiMh batteries. They are however subject to the potential growth of crystals inside the cells that can reduce the capacity of/or permanently damage the battery. Because of this, for optimum battery life, the best way to use a NiCd/NiMh battery is to run it flat before recharging.

We don't however want to be running the batteries flat while flying our models, so an alternative is to use a battery charger's “cycle” function. The cycle function either discharges a battery before charging it again automatically, or vice-versa. You can typically set how many times you want the charger to cycle the battery. To keep your NiCd/NiMh batteries in good order, use your charger to cycle them a couple of times every 2-3 months. This also gives you a chance to check the battery's capacity as it ages.

LiPo batteries should not be cycled routinely. For maximum lifespan charge them to around 40-50% of capacity after use and top them up before your next flying session. Some chargers have a built in function that can automatically set a LiPo battery's charge to an appropriate level for storage.

LiPo batteries stored under optimal charge and temperature settings may lose as little as 4% of their capacity in a year. LiPo batteries left fully charged and stored at temperatures over 30 degrees Celsius can lose 20% of their capacity in a year.

### When to retire your batteries

I read a detailed analysis of NiCd/NiMh battery packs that used statistics to calculate that a NiCd/NiMh battery was likely to lose a cell after 2 ½ years. As such the author suggested retiring NiCd/NiMh batteries after 2 years to minimise the risk of losing a model to battery failure.

How accurate is this advice? I don't have the advantage of many years of experience to look back on but I do know this. When I took up R/C aeromodelling seriously I purchased a JR transmitter/receiver bundle. A cell failed in the NiCd transmitter battery almost exactly 2 years after purchase. A cell failed in the receiver pack around 2 ½ years after purchase.

I have not seen a similar analysis published for LiPo batteries however signs it may be time to retire a LiPo battery include:

- Failure of a cell.
- Noticeable loss of capacity (resulting in shorter flying time before noticeable loss of thrust).
- Battery getting unusually hot after flight (likely linked to capacity loss).
- Battery fails to hold voltage under load (a likely indicator of this is noticeably less thrust than usual).
- Battery becomes “puffy” (one or more cells become noticeably bloated with gas).
- Physical damage to a cell (through a crash or some other incident).

I have been using the advice contained within this article for the past few years and it has served me well. I wish you the same success.

## 2012 TMAC Calendar

We are still on schedule to produce a fund raising calendar for 2012. Hopefully, it will be available in November, in time for Christmas gift giving.

If you have some photographs you would like to nominate for inclusion in the project please email them to me at [newsletter@tmac.asn.au](mailto:newsletter@tmac.asn.au), preferably in a small file size initially, by September 30th, 2011.

We look forward to seeing your photo's.

## TMAC Merchandise

If you would like to purchase from the TMAC range, please contact Gregor Kruberg. Prices for the merchandise are;

Polo Shirts	\$35	available in white or gray
Caps	\$15	available in gray (limited stocks of blue available)



Terry & Mark model the latest Tingalpa fashions.

## Notice to Instructors

When instructor's are submitting Wings forms for MAAQ / CFI, it would be preferable if you processed them via our club registrar (Noel Stewart) for administrative reasons and expediency.

There have been tracking issues with forms that have been submitted directly.

### TMAC Membership Fees Due ASAP

Don't forget to keep a check that your MAAA license is sent to you within a reasonable timeframe. If you do not receive your current MAAA license, please let the Registrar, Noel Stewart know.

## Scalefest: 18-19th June

Phil Gartshore & Noel Stewart

The weekend of the 18<sup>th</sup> and 19<sup>th</sup> June saw another successful ScaleFest. ScaleFest is a combination of static and flight judging without the need for scale documentation. This encourages modellers who are not hard-core scale contestants to participate and experience competition. There is a weighting towards scale flight to allow pilots to show off their scale flying skills. Scoring consists of a static score, and the best two of up to three flights. This year's event was very well patronised with nearly 30 entries.

Saturday was clear and sunny with a steady breeze down the strip and some chop aloft. The brave got out there and flew their flights were completed in the choppy conditions; however many decided to wait until Sunday.

Sunday was fine and clear with light winds, and that's when it got busy. Each pilot is allowed up to three judged flights, and the flight line was very busy all morning. The judges were worked hard, and at times struggled to complete the paperwork. Mark Woodgate did a great job managing the flight line with the finesse of an Air Traffic Controller. The fantastic weather left no excuses for any lapse in flying technique.

Entries included: PT17 Stearman, DH82 Tiger Moth, P51 Mustang, T28 Trojan, Fokker Ein-decker, Fokker D7, F8F Bearcat, OH58 Kiawa, Sparrowhawk, Yak 25, Sukoi 26, Cap 232, BE2, MXRS, DHC1 Chipmunk, Eurofighter Typhoon, PT19, L39 Albatross, Gumman Duck, Percival Proctor, and Transavia PL12 Airtruk.

A couple of unfortunate crashes on Sunday for Richard Symes' beautiful F4U Corsair due to a structural failure in flight, and Will Sipma's Transavia Airtruk, which stalled on take-off but was not able to recover despite a huge effort from Will.

### Awards

We wound up the flying and judging at 12:30pm, and totalled the scored. Congratulations to the following participants who took home the fantastic trophies created by Noel Stewart:

#### UP to 70" Models

- 1<sup>st</sup> **Tiz Quagliatini** (Fokker D7)  
 2<sup>nd</sup> **Dennis Greenfield** (OH58 Kiawa)  
 3<sup>rd</sup> **Luke Wilson** (P51 Mustang)

#### 70" to 90" Models

- 1<sup>st</sup> **Chris Patterson** (L39 Albatross)  
 2<sup>nd</sup> **Chris Dawson** (Eurofighter Typhoon)  
 3<sup>rd</sup> **Lionel Weeks** (DH82 Tiger Moth)

#### Over 90" Models

- 1<sup>st</sup> **Ken Baird** (P34a Percival Proctor)  
 2<sup>nd</sup> Not Awarded  
 3<sup>rd</sup> Not Awarded

**Pilot's Choice: Glenn Crossley** (PT17 Stearman)

**Judges Choice: Richard Symes** (F4U Corsair)

### Sponsors:

A huge thanks to the sponsors who donated the terrific raffle prizes:

Wings over the Downs  
 Xtreme Hobby  
 Budget Hobbies

Hobbyrama  
 Desert Aircraft

A big thanks also to Mark Woodgate who donated the A26 Invader ARF kit. Our appreciation goes to all those without whom the event could not be run. There are too many to name here, but great contributions from the judges, flight line controller, catering team, raffle sellers, and grounds keepers. Your contribution to the event is very much appreciated.

# Queensland ScaleFest 2011



PROPOSED TMAC BY-LAW CHANGES to be discussed at the August/September General Meetings

By-Law 01 - Include the following definitions:

Frequency Specific Radio Equipment – any radio transmitter or receiver that requires exclusive use of a specific channel or frequency such that the use of more than one radio transmitter on that channel or frequency would interfere with the others. This includes 27MHz, 29MHz, 36MHz and 40MHz transmitters.

Non Frequency Specific Radio Equipment – any radio transmitter or receiver that does not require exclusive use of specific channel or frequency and can operate without interference with other radio transmitters on that frequency. This includes 2.4 GHz transmitters.

By-law 01 – update definitions of Transmitter Pound to: A nominated place within the pits area in which Frequency Specific Radio Transmitters shall be stored when not in use.

By-law 01 – update definition of Frequency Control Keyboard to: A device used to control the use of Frequency Specific Radio Transmitters (usually attached to or adjacent to the transmitter pound).

By-law 01 – update definition of Frequency Control Key to: For Frequency Specific Radio Transmitters, a device placed in the Frequency Control Keyboard to indicate ..... (as already there) .... adjacent channels. For Non Frequency Specific Radio Transmitters, a device displayed on a Frequency Control Key Hook to indicate to other club members that member is operating a transmitter of that type. (Usually adjacent to the area in the pits that the member is using).

By-law 01 – add definition of Frequency Control Key Hook – A designated location or locations where Frequency Control Keys for Non Frequency Specific Transmitters shall be displayed.

By-law 03 – rename this By-Law to “Operational By-Law 03a – Frequency Specific Radio Equipment. Modify to remove non-2.4 stuff. Update the By-Law 00 index entry for this bylaw.

By-law 03 Radio Equipment - Appendix A – rename this By-Law to “Operational By-Law 03a - Frequency Specific Radio Equipment – Appendix A” and update the By-Law 00 index entry for this bylaw.

Create a new By-Law 03b – Non Frequency Specific Radio Equipment. Update the By-Law 00 index entry for this new bylaw.

Also I suggest adding the following:

Add the following definition to By-Law 01 – Frequency Control Label – a coloured label issued to a member by the club for each membership year to be attached to a Frequency Control Key.

Add the following rule to By-Law 02 - Frequency Control Keys must display the Frequency Control Label issued by the club for the specific year of operation. The display of this label indicates to members that the owner is a financially paid-up member for that club membership year. The frequency or channel of operation must be recorded on this label.

# Scalefest Weekend Photographs



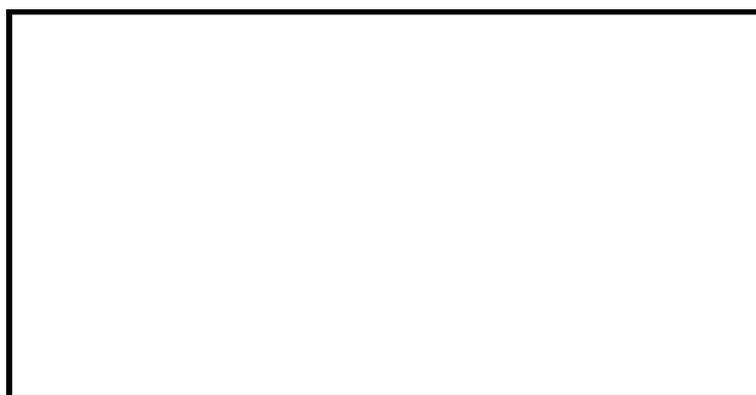
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