



### Avspecs latest Mosquito.

This is number 3 off the production line, on its maiden flight. (see "Links" for a video).

Welcome back everyone – its two months since the last edition and there have been many happenings in the meantime. We have had lots of demanding weather ranging from massive rainfalls before Christmas and then windy days in January. Despite this, some good flying days to those who watched the forecast and took advantage of brief lulls.



### Mike Wilson's 10 year old Tiger Moth

Still looks impressive with full cockpit details.

This is now on its 3<sup>rd</sup> motor and the picture shows a new DLE35 being test run. Amazing what you find under the Xmas tree.



### Field Maintenance

Its been a busy month with field work,

**New arrival.** The soil at TECT Park is not great for growing grass and it is a constant maintenance issue to add fertiliser and to spray weeds. To date we have borrowed a push spray unit from Richard Brown. We have now acquired a sprayer which can be towed behind our mower and used with a boom for weed control on the runway, or with a hand spray unit for doing edges or around the club house etc.

Specifications – 60 litre tank, 1500 mm spray width, electric spray pump. VNE – to be determined.

**Portable windsock** – this was left out over the Xmas break and got blown to shreds, and then run over by the mower. While these are not an expensive item, it is a hassle to repurchase and set up a replacement. Could the last person off the field each flying day check that any equipment such as the battery charging bar, windsock, starting pad poles etc, are put away in either the club house or the day shelter.

**Runway seeding** - Following our weedspray last year, the spray was effective in killing the round weeds which

had taken over the runway. This unfortunately left a series of bare earth bald spots which were subject to erosion and potholing. In December the committee arranged for both runways to be undersown – new grass seed being planted into cuts which were then rolled closed. Conditions were good for rapid seed germination with high ground water levels and warm soils, and to date we appear to have had a good strike.

**Weedspray** – a second weedspray round was done in January using our new spray unit. This is planned to deal to any weeds which survived the previous blitz.

**Starting Poles** – an additional pair of starting poles has been made. This will enable both large model starting pads to be used at the same time.

## December Club night

This took the form of a quiz night and attendees came away with enhanced knowledge about esoteric aviation subjects such as Miss Shilling's orifice, and why Andy Avgas keeps a bottle of whisky in his first aid kit. Do you know how to tell the difference at night, between a Boeing and an Airbus? The quiz was won by – you guessed it – Caleb Day, who received a large set of ball-ended Allen keys.

## Latest Wings Holders

Congratulations to Caleb Day for gaining his BP wings qualification. Very well deserved, Caleb's flying skills leave some of us in awe. The coordination is strong in that one!

## Nationals 2019

Various club members attended the nationals as both spectators and contestants. Some results which have been reported to Andy Avgas:-

- Soaring :- day 1 Ales 200  
Kim Clark 9<sup>th</sup>, Bruce Clark 10<sup>th</sup>, Rob Morgan 12<sup>th</sup>
- Premier duration  
Bruce Clark 12<sup>th</sup>

- RC Novice Scale  
Caleb Day entered the RC Novice scale section. Caleb's Smith Miniplane was the smallest plane there but flew amazingly well in the trying gusty conditions. Caleb scored a creditable 4<sup>th</sup> in his first nationals' competition. This is a great result considering he only got his wings in December.

- RC Scale  
Tony Christiansen flew his large scale Lysander and demonstrated a MAD<sup>1</sup> and vertical descent as his primary manoeuvre. Although spectacular, this did not earn many points. Oops !



Caleb patiently waiting for the judges' results

## December BBQ

Despite one of the biggest lightning storms seen in Tauranga the night before, the day was rain free, overcast and low wind. Some 20 members and spouses turned out and enjoyed a day of social chat, flying, and gourmet (?) cooking from executive chefs Laser Fraser and Gary.



Minding the BBQ.



## The Christmas Drone

The summer period has had several reported instances of drones disrupting full size aircraft operations, most notably Gatwick aerodrome being shut down for more than 24 hours. Many of these incidents can be attributed to a complete ignorance of the regulations governing operation of drones, or to deliberate acts of nuisance.

<sup>1</sup> MAD – mid air disassembly. A difficult and generally impromptu manoeuvre.

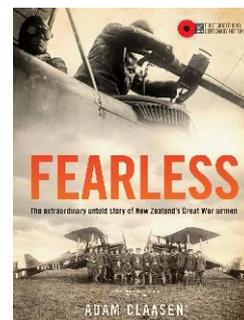
Since Xmas, the Secretary has received several requests from people who found a drone under their Xmas tree and are seeking help with getting it in the air. A common factor in these enquiries has been a total lack of understanding of CAA regulations, basic safety, privacy and public nuisance issues these can cause. If you receive any such requests, please refer them to the CAA site to download a summary of Part 101 rules, and also to the Tauranga City Council site for details of rules around flying in local public spaces. They should do this preferably before they open the box the drone came in. They are also welcome to join the club to gain their 'wings'.

Incidentally – when people talk to me about drones I suggest they have been watching too many Star Wars movies. I remind them that the correct terminology is “RPAS” – Remote Piloted Aerial Systems.

### What I've been reading

Santa Christmas gave me a copy of “Fearless” by Adam Claasen. This is a well researched and referenced account of New Zealand airmen who flew in World War 1. Its easily readable and engrossing. It covers the flying schools at Wigram and Kohimarama and gives accounts of battles with Zeppelins, the failed Mesopotamia campaign, dogfights over the Somme and other European fronts, reconnaissance and bombing raids. There are many photos of the men who flew in the conflict, and of the many largely forgotten aircraft which were the peak of technology of the day.

Lots of opportunities and inspirations for building WW1 models.



### Stuff to think about – upcoming Annual General Meeting

One of the main functions of the AGM is to elect a committee to manage the affairs of the Club for the following 12 months. Our committee has been relatively stable for a few years now, under the leadership of Bill de Renzy as President, Roger Peddle as Treasurer/Membership, and Dave Marriott as Secretary/Editor. Gary Powell moved into the role of VP last year and Rob Morgan and Richard Thompson joined us more recently. Bill and Gary have indicated that they want to step down in April. Under the rules Dave and Roger must retire “by rotation” but are eligible to be re-appointed. This means that there will be a reshuffle of the governance team, and an opportunity for some new faces on the Committee.

One of Bill’s major contributions during his 20 years of being on the committee is his extensive knowledge of our history, and his numerous contacts when we need to make something happen. It has been suggested that we adopt the practice used by many clubs of reserving a position on the committee for the “immediate past President”. This has the effect of preserving historical knowledge at the committee table and supporting continuity of planning and development. Creation of this position would require a change to the Constitution and thus a vote at the AGM.

Our 2019 AGM will be held in place of the normal club night on 3<sup>rd</sup> April. Typically AGM’s are not the most exciting function of the year (other than the soap opera drama we have seen at recent other institution AGMs in recent times) and we typically get less than 50% membership attendance. This may reflect confidence in the current committee’s actions, but has the unfortunate consequence that if there is a contentious issue, the vote can be carried by a relatively small number of members, who may not represent the democratic majority of members views. The Committee is investigating whether electronic voting could be used as this would provide an opportunity for all members to cast their votes without the need for physical attendance, or for preparing a proxy vote. The disadvantage of electronic voting is that attendance of the AGM gives the opportunity to listen and participate in debates before making up your mind on which way to vote.

Any change to our voting system will need a change to our Constitution.

Any changes to the Constitution have the potential for the “Law of Unintended Consequences” to come into play. Changes need to be thoroughly considered to make sure that proposed bright ideas do not have unforeseen consequences which could have adverse impact.

A formal note advising of the AGM date and venue will be sent out in due course. Please start thinking about:-

- Standing for committee (its rewarding and fun). We meet once a month to solve the world’s problems.
- Changes to the makeup of the committee eg establishment of past president position
- Changes to voting procedures – eg electronic voting
- Any other issues requiring a resolution to be tabled at the AGM.

## Links to things of a somewhat aviation theme

- How does a propeller work? <https://www.youtube.com/watch?v=0bP2MH3Lqvl>
- Snoopy came for Xmas - <https://www.facebook.com/UNILADTech/videos/2043586639266387/UzpfSTeWMDAwMzYzMTA3ODY0NjoxNDcwNjA5MDE2NDZzNDUz/>
- Bladeless RPAS. <https://www.youtube.com/watch?v=5L6FSdUmEpg&feature=youtu.be>
- Can you do landings like this ? <https://www.facebook.com/XinhuaNewsAgency/videos/239088153429356/UzpfSTcyNzA0MTk5NzoxMDE1NjQ3NjUxMjUxMTk5OAA/>
- Avspecs – Mossie # 3 first flight. <https://www.facebook.com/150073775005366/videos/390294005071191/UzpfSTE0NjQ4OTUzODA6Vks6MTkyMTc5ODIyNzk0NTY4Mw/>
- Silent Flight – no moving parts: [https://www.washingtonpost.com/science/2018/11/21/silent-electric-plane-inspired-by-star-trek-has-no-moving-parts/?noredirect=on&tid&utm\\_term=.85ceb796fa54](https://www.washingtonpost.com/science/2018/11/21/silent-electric-plane-inspired-by-star-trek-has-no-moving-parts/?noredirect=on&tid&utm_term=.85ceb796fa54)
- Rwanda drone delivery service – some advanced thinking here - <https://www.youtube.com/watch?v=jEbRVNxL44c&feature=youtu.be>

## Andy's dobinamate column<sup>2</sup>

Its been an eventful couple of months. Who was it :-

- that noticed his plane had a rough idle and when he landed discovered that of the four engine mount bolts, 2 were missing and the remaining 2 were loose? A remnant of a previous "service".
- that planted the marijuana patch in our outfield?
- that found the marijuana patch? Why was he bashing his way through the jungle?
- that discovered that wing bolts work best when tightened up? (big oops !)
- who destroyed 2 planes and had to revert to a third backup in order to sit his wings test?
- who had a flyaway from Maramatanga Park to Welcome Bay?
- who mixed up some blue dye to mark out the mowing edges and went home looking like a Smurf?
- who had a radio failure while on a glider tow?. Glider and towplane saved only by the towline parting company. Now talking to the bank manager about a new glider.
- who struggled to get his 50cc petrol motor started and then found when he removed the cowl that he was operating the choke the wrong way round?
- who parked his Piper Pono in a tree and then left a message in the club house gifting it to Mr A if he could retrieve it. After some heroic arborist work by Fraser with a machete, said plane was retrieved largely intact. Rumour has it that the fuel tank was empty.
- Two lucky flyers had a similar lucky escape on the same day. Both landed successfully with one aileron linkage detached. It is suspected that some cloud fairy may have been busy loosening these off while doing circuits.
- who had a radio failure and dropped a Piper Cub into the jungle. Some story about an FrSky radio suffering interference from a spark ignition motor. Several more marijuana plants found in the process!



## Joint Governance Committee Meeting

Secretary Dave gave a presentation to the "Joint Governance Committee" in early December. This is a combined meeting of the Tauranga and Western Bay Councils. Both Mayors attended with an entourage of Councillors. Each Club at TECT Park gave a 5-minute presentation on our journey so far. The messages from the clubs were very similar – all were appreciative of the TECT opportunity and congratulated the Councils for setting up this unique facility for hosting activities which cannot be run easily within the city environment. Several clubs expressed a concern that while the intention of the Park was to accommodate noisy disruptive activities, there were now several groups enjoying passive recreation (eg camping, cycling, walking, equestrian trail riding) and that this could lead to pressure to impose limitations on clubs to minimise their noise and visual impact. It was noteworthy that while we consider ourselves as one of the oldest clubs in Tauranga (formed in 1946) the Gun Club predates us by a considerable margin, having been formed in 1887.

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<sup>2</sup> Andy Avgas is our junior roving reporter. Never seen, but sees everything. Contributions appreciated.

## Website

The website has been updated and you can now download copies of the last 2 years newsletters.

## Coming Events

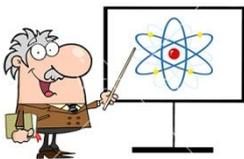
- 2-3 February Warbirds over Awatoto
- 1<sup>st</sup> March – start of the club financial year. Membership invoices will be sent out in February. Fees must be paid before 1<sup>st</sup> April to ensure MFNZ insurance coverage.
- 1<sup>st</sup>-3<sup>rd</sup> March – Australian International Airshow, Geelong. Melbourne. Ref - [www.airshow.com.au/airshow2019](http://www.airshow.com.au/airshow2019).
- April 3<sup>rd</sup> – Our 73rd AGM. Time to think about the future.
- June 16th – TMAC annual auction. Time to clear out the shed and to make up a wish list.



## Bay Hobby Supplies

Some of you may know that Bay Hobby Supplies had a fire just before Christmas and lost all of their stock. They have now re-opened in temporary premises, with off-street parking, at 1216 Cameron Road. They hope to be back in their previous location in the Greerton shopping centre before the end of June. The cause of the fire is believed to be a battery powered drill catching fire in the panel shop behind them. Another lesson to be careful when using rechargeable batteries.

## Technical Topics<sup>3</sup>



**How to find motor kV value... by Bob McGrath** (stolen from the Kapiti Club newsletter)

Having recently acquired a few second-hand, pre-loved or just plain unwanted electric motors I have been trying to use them in various models. As early attempts to use these motors led to some spectacularly over, or under, powered models I thought it wise to at least attempt to do things properly. This led to the problem of which prop to select for

the particular airframe and hence the need to find the kV value for the motors, many of which were missing the data sheets or had no identifiable markings on them.

After delving into the matter with those who are more expert than I am it was determined that I should buy a kV meter, or an oscilloscope or some other complicated gizmo. Unnecessary expense just annoys me so I set out to find a cheap alternative ... here it is!

Grab your battery-powered electric drill and connect it to the motor shaft. Connect a multi-meter to any 2 of the motor leads ensuring that the meter is set to AC voltage. Spin the motor and measure the output voltage as accurately as possible (the motor is acting as a generator) and the r.p.m. using a standard rev counter.

Put the numbers you measured into the formula below and bingo! You have the kV for the motor. This is a little approximate but is a cheap and quick way of finding kV that is good enough for most purpose.

$$kV = \text{rpm} / (\text{voltage} \times 0.95)$$

In case you are wondering about the constants, 1.41 (ie  $\sqrt{2}$ ) compensates for the fact that the measured voltage is the rms (root mean square) value and the 0.95 is a fiddle factor that converts theoretical motor performance to actual performance, a proxy for efficiency if you like.

## Learner Flyers

We still have a number of members who are yet to gain their wings. Also a couple of enquiries from juniors wanting to join the club. It is always difficult for new young wannabe flyers to get started as this requires input from someone prepared to give tuition and also probably to assist with transport and model setup.

- If you are a junior and need assistance please don't be shy. Get to know some of the older members and ask for help.
- Senior members, please recall your learning experience and offer your services to help other members gain their wings.

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<sup>3</sup> Professor Flapbracket is the author of the best seller "101 Ways to Fall From the Sky" .

## Annual subscriptions

Its that time of year again where we have to revisit our fees. We are predicting that our year end bank account will be very similar to reserves at the start of the year. This means that we have managed to control our expenses to almost directly match the income we receive from members. Our largest expense is the rental fee paid to TECT Park, followed by insurance for our equipment, and field maintenance. It costs about \$40 per week to mow the runway. Other annual expenses include weedspraying \$100, undersowing \$300, fertiliser \$300, repairs and maintenance for the tractor and mower \$650. The costs of renting the Gliding Club rooms for our monthly meetings has increased. We have also bought a number of small equipment items including a spray unit, windsock and leafblower. To keep our subscriptions as low as possible, while continuing to develop one of the best flying sites in the country we have funded general expenses from subscriptions and auction proceeds, and have funded large projects from external community charity sources.

Our Committee tries very hard to keep fees down, but the club requires a minimum level of income to operate, which cannot be avoided. For the 2019/20 year, the committee is anticipating a similar level of activity to the current year and has approved an increase of \$2 to our senior membership rate. Full details of the new rates will be emailed shortly.

## Wings Test Questions (contributed by Fred Propwash<sup>4</sup>)



Q. What is the altitude limit for the current site?	A. TECT Park - 1000 feet (300m) above the runway. (2500 feet ASL)
Q. What are the requirements for an observer? What is their role?	<p>A. Any pilot not holding a wings badge must be accompanied by an observer who holds a wings badge for that class of model while flying an R/C model aircraft.</p> <p>While not mandatory, pilots holding a wings badge are encouraged to use an observer while flying at TECT Park.</p> <p>For some clubs, particularly those on airport approach paths, observers are mandatory.</p> <p>An observer has several functions.</p> <ol style="list-style-type: none"> <li>1. Ensuring the safety of the public, air traffic and other club members.</li> <li>2. Maintaining the overall supervision of the pilot and model being flown.</li> <li>3. Actively scanning the aerial area (visually and audibly) for any full-scale aircraft approaching.</li> <li>4. Advising the pilot of any changing situation and recommending the model pilot's course of action to avoid the full-scale aircraft</li> <li>5. Advising the pilot of other pilot's calls and flight intentions (take-off, landing, dead stick, low pass etc.).</li> <li>6. Ensuring that the model aircraft they are observing for, maintains adequate separation from other models flying in the circuit.</li> <li>7. Any other hazards that may appear during the flight (pedestrians on the strip or adjacent walking track, dogs, horses and riders etc).</li> </ol>

(For a full list of questions send an email to [taurangamodelfly@gmail.com](mailto:taurangamodelfly@gmail.com))

That's all for this edition. Fly safe and keep out of the jungle.

**Dave Marriott**  
Editor



<sup>4</sup> Fred Propwash is a junior member who has been studying for 2 years to get his wings.