



Photo's - Andrew Farrow

## Nationals Waharoa 2017 --- IMAC

We have some very fine pilots in our club.  
When things are going well one of them he describes himself as  
"Mr Smooth deluxe" Can you guess who this might be?

He got a 3rd place in sportsman IMAC.  
Not terribly impressive. (*Dad's comments not mine...Ed*)  
I think there were 8 competitors though.  
Ryan's engine called it quits after round one.

He was doing well in Scale with my Fw190 too. But he made the exact  
same mistake that I had made at the previous nationals;  
Forgot to select low idle for landing. Muffed the landing, broke the landing  
gear mounts and didn't get past round one.  
So we didn't place in that competition last year or this year.  
Not very smooth!

By now, no doubt you have worked out who our fine pilot is ... Well done to  
**James Farrow** for placing third in the IMAC Sportsman at the recent Nationals held in Waharoa.

*Contrary to his "old man's" comment. I reckon it is very impressive... Well done James!.*



## From the Prez.

Hi all,

Weather can best be described by using a selection of special characters. \*(&^%^#) In fact I think a whole new language to describe our summer is on the cards.

I did see 2 (or was that 3) days of summer since Xmas. I'm sure a lot of you are undertaking winter time builds rather than summer time flying!

So on the Club activity front, there isn't a lot to report!!

(I'm extremely jealous of a few that have travelled elsewhere and enjoyed a much friendlier climate!)

What's happening?

### Ron's tasks.

Most of the jobs Ron undertakes are now taken care of. Shopping for the club house (toilet paper etc.), fuel for mowers and biscuits for club night suppers have been put together so that there is only one lot of receipts to be claimed. We have taken care of that.

#### **Club night cup 'o' tea.**

We will put together a roster for this and ask Ron to briefly outline what he does at the Feb club night. If everybody takes a turn, then it won't come around very often.

So put your name on the roster next club night.

#### **Silver Fox Squadron BBQ.**

This is self-funding. Warner has volunteered to look after this and will arrange a 'hand-over' with Ron. Also, we will change the way the 'raffle' for the privilege for doing dishes, runs at the BBQ. We will keep a perpetual list and once you have had a turn, will not be up for the grand prize again until everybody has had one.

### February Club Night

This will be Ron's last club night as official purveyor of supper. Hopefully we will have a good turnout to say 'thanks' for his sterling work.

**MENZSHED** Waikanae will be giving us a presentation on what they do as well as show us some of the things done. If we are interested in modelling, we should also be interested in MENZSHED as another outlet for our skills. Let's have a good turnout.

### Rally

Organisation for the Rally is well underway. Posters for the 'Airshow' as shown in last month's newsletter are now available in the club house. Grab some and get them around the community. We need the club members to spread the word. If more are needed, let me know. If you want to print one off at home, I'll send you the file.

There are a few changes to the day that grew out of last year's Rally review.

**Portaloo:** Will be in the car park area, not way down the other end.

**Flight Line:** Will be managed again by Don, but we will have a roster helping here. Don has a list drawn up of helpers he will approach.

Flight line will also run differently, with scheduled slots so we avoid some of the clashes of model types etc. we had last year.

**Spare rib café:** Will again be run by Brendan and John Von. Brendan will recruit his own band of merry helpers.

**Gate/Parking:** Roger will again look after the gate and parking. Roger will need some volunteers. If you are willing to help, please contact him: [sharoger@paradise.net.nz](mailto:sharoger@paradise.net.nz)

**Model Inspections:** Paul will again look after model inspections and will recruit his own band of helpers. A changes this year will be that inspections will take place at the assembly tables. Pilots will be asked to present their models at the tables. It is easier to inspect at that height. Some extra tables will also be in use to spread the load. Obviously very large models will not easily be lifted on to a table etc, and where necessary will be inspected on the ground. However, such models should be presented to an inspector at one of those inspection points.

**Rally Dinner.** We had thought of using Cookies this year after the very successful midyear dinner we had there. However, Cookies as we knew it is no more and now just a takeaway kitchen around the corner. We have again approached Club Vista and made an arrangement with them. We had not the best of experiences with service last year but are assured that there has been a change of kitchen management and this year we will not be disappointed.

**Rally Forms:** are up on our website.

**Rally registrations:** Rally registrations will again be available online.

**Rally working bee:** will be held on Friday 10<sup>th</sup> as usual.

**Announcer:** The imitable Warner.

## **AGM:**

The AGM will be held, as usual, in April. Now is the time to give some thought to how you might contribute to the club. Warner has advised he will be stepping aside this year, so there will be at least one opportunity for new blood. Any position is contestable.

## **Fees:**

As has been mentioned in previous newsletters, the MFNZ fee will be due by the end of March. The club fee, this year, will be invoiced separately in April so that we can review it in line with our constitution. A change to the constitution will be put forward at the AGM to change the way the club fee is managed going forward.

## **Other stuff.**

Young Ian (Crozzzy) Crosland has been out and about. Has celebrated his OBE!!! (Something to do with turning 80). Parked in his camper at the back of Motueka airfield with a group of family and other like-minded camper-vanners, Ian was watching a light plane doing touch and goes. On the last touch and go the throttle apparently didn't get to peak revs with the result the fence at the end of the runway came to grief! – as did the plane.



THE FENCE





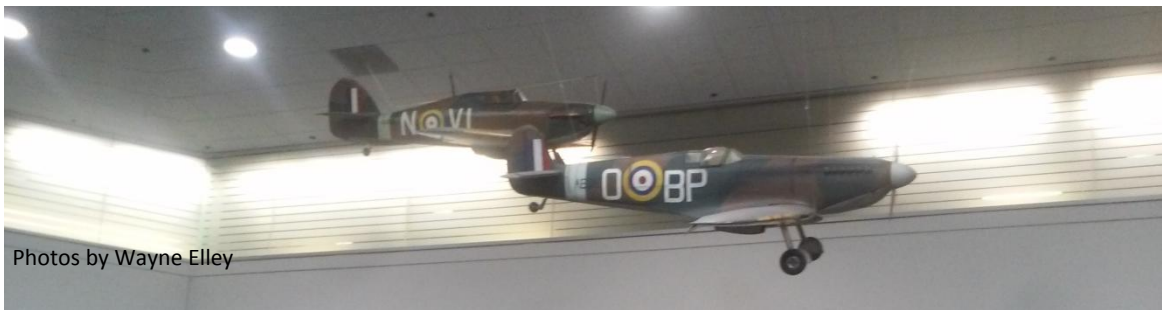
THE PLANE – Oh dear. I bet none of our pilots would have done that!



THE MAN... with his OBE (Over Bloody Eighty)

**Donated Model Gear.**

Ian Fergusson, who kindly donated some old model gear recently that we have been able to sell and benefit the club by some \$100.00, died last Thursday evening. He was really very pleased that we had saved those pieces from the tip.



Photos by Wayne Elley



## San Francisco International Airport

*"If you're going to San Francisco, Be sure to wear flowers in your hair." ( Philips/Mckenzie -1967)*

Not sure if Wayne had flowers in his hair but he captured these cool photos. As he said, " Just saw these babies hanging from the ceiling of the domestic terminal complete with RC engines" .

## A Trip to the USA... by Wayne Elley

I had the pleasure and privilege of visiting the USA recently with my partner Barbara who hails from New Jersey. We spent a week or so on the West Coast seeing Las Vegas and the Grand Canyon, plus a trip to southern San Francisco where my sister lives with her family.

I know the questions you may already be asking: did you see protesters, were Americans talking about Trump? Let's put that to rest now – fortunately we were there after the election had settled but before the inauguration. The New York transit system would have been a nightmare had we been there for the post-inauguration protests as democracy's victims clamoured to make their voice heard on 20<sup>th</sup> January. As for the ordinary Americans we met – Barbara's old friends – they were mostly over it all and somewhat embarrassed and apologetic at what it must have looked like to the outside world. Only one friend admitted being a Trump voter. His partner had voted for Hillary so it was a testament to the strength of their relationship that they were still getting along fine! I got the impression that painful as it is, the USA will get through this okay, though there will be many bruised liberals and social media will be in overdrive for some time to come with its mostly anti-Trump rhetoric.

The main point of this wee story is to share some aviation stuff that we mostly unintentionally came across. The first treat was totally unexpected. Barbara's sister took us for a 2 hr drive out along Route 80 freeway (this goes west all the way to California) to a picturesque historic place called Blairstown. We were there to pick up a pedigree puppy that was going to be couriered across country to California (someone paid USD\$2600 for this furry fellow!) Anyway, we stopped in for lunch at Blairstown Airfield where there was, in the middle of a snowy winter, a fully-functioning restaurant. It must have been about 0 degrees C outside but inside there were bottomless cups of coffee and all kinds of memorabilia on the walls, including photos of jets and other aircraft in the Iraq and other conflicts. These had been piloted by locals. There was also a poster on the wall:

WANTED  
GOOD WOMAN  
MUST BE ABLE TO CLEAN COOK SEW AND WAX AIRPLANE  
AND NAVIGATE  
MUST HAVE HANGAR AND AIRPLANE  
PLEASE SEND PICTURE OF  
PLANE AND HANGAR



Photo by Wayne Elley

Blairstown Airfield



The airfield itself was covered in several inches of snow and several gliders lay parked, their wings similarly snow-covered. A couple of single-engine Cessnas came in to land as we ate. It sure was a delightful place for an aviation enthusiast. I wonder if you can identify the kinds of gliders from the pics?

The next aviation treat was across the Hudson River from New York City, Teterboro Airport. Much smaller than Newark, this airport serves the corporate world with its private jets. There were perhaps 15-20 aircraft parked up at any one time. Next to the airport is a quaint old aviation museum with the grand name "Aviation Hall of Fame Museum". It looks and feels very 1980s and is certainly well off the main tourist trails. USD\$8 gains you entry into the total opposite of the big NYC attractions with their queues stretching around the next block. We were the only ones there for most of our visit, until an American couple came through. The place was jammed full of interesting stuff, including a whole room full of painted plastic kitset static plane models that looked like they were gathered from various modellers' collections. Also the main gyro from one of the Saturn V rockets sat in a corner. Our visit began with a 10 min video shown on an old CRT television. What surprised me was the huge connection that New Jersey has with aviation. Names like Apollo astronaut Buzz Aldrin and Amelia Earhart. There was even a museum shop and a stand with second-hand aviation magazines, 6 for \$1.

Oh, and a museum cat!

Here's the web link if you want a further look:

<http://www.njahof.org/index.htm>



Aviation Hall of fame

Photos by Wayne Elley

The last interesting place was the aircraft carrier Intrepid which is tied up in Manhattan on the Hudson River at the end of 46<sup>th</sup> Street. The web link will tell you better than I can about the site:

<https://www.intrepidmuseum.org/>

Suffice to say that we spent several hours browsing the various decks. A large assortment of aircraft and helicopters is arranged on the flight deck, along with the SR-71 Blackbird and one of the Concord aircraft. Several of the ship's veterans were on hand to help us understand the exhibits. Being a major attraction, this one we had to queue for, approximately 30 mins in the cold NY rain, but well worth the visit.



## Intrepid Museum

Photos by Wayne Elley

### Wings Badges:

Well done to **Gert Smit** on passing his BP Wings badge. If anyone else has done a test recently , please let us know , so we can say "Well done"

And as usual, *(like a stuck record)* , if you need to do your wings badge , get hold of one of the examiners, and do it. If you require training please get hold of one of the instructors and arrange with them to get yourself flying.



## Lithium Battery Safe Storage and Transportation Considerations

... by Alistair Haussmann

The following is provided to assist with understanding the discussion in the article titled “LIPO Management “ from Tauranga Model Aircraft Club (TMAC) being reproduced in this edition of the Kapiti Aeromodellers' Update.

The basis of the Tauranga article is that the transport regulations due to their stringent nature provides the best basis for the safe storage of Lithium batteries in our own homes. This is a reasonable interpretation as the air transport regulations that can be referenced are compiled based on testing completed by independent authorities.

The Tauranga article talks about Li-ion and LIPO batteries in the same context as related to International Civil Aviation Organisation (ICAO) requirements for Lithium battery transport.

For Transport purposes the International Air Transport Authority (IATA), which Air New Zealand refer to, classify various types of lithium batteries, refer to Reference : IATA 2017 Lithium Battery Guidance Document <http://www.iata.org/whatwedo/cargo/dgr/Documents/lithium-battery-guidance-document-2017-en.pdf>

For air transport purposes, although as model flyers we understand there are distinctive differences between Li-ion and LIPO batteries, they should be treated the same based on IATA classification;

*“Lithium batteries fall into two broad classifications; lithium metal batteries and lithium ion batteries. Lithium metal batteries are generally non-rechargeable and contain metallic lithium. Lithium ion batteries contain lithium which is only present in an ionic form in the electrolyte and are rechargeable.*

*Within these two broad classifications there are many different chemistries. For example within lithium ion batteries there are lithium polymer, lithium iron phosphate (LiFePO4), lithium air to name a few”.*

The following links are also of interest;

1. IATA regulations <http://www.iata.org/whatwedo/cargo/dgr/Pages/lithium-batteries.aspx>
2. IATA Video <https://youtu.be/Wb0OSW9GnVk>

### LiPo Management (*Reproduced courtesy TMAC - Newsletter Jan 2017*)

We have all read of the risks of LiPo fires and we always charge our batteries using a voltage sensing charger, with the battery stored in a fireproof container – don't we ? The following article discusses another management technique which is of storing at a low state of charge, and then only charging when you need to use it. (*reprinted from “Rogue Eagle” – the official newsletter of the Rogue Eagles RC Club, Oregon, USA*). – article contributed by Roger Hutson.

## State of Charge (SOC) Risk

In March 2016, the ICAO (International Civil Aviation Organization) issued instruction that Li-ion be limited to SOC of 30% or below when accepted for air transportation.

[Tests were conducted on 18650 batteries in 2004](#). In these tests energetic failures with and without flame were experienced at SOC of 70% and 100%. Severity and likelihood of a failure was greatly reduced at 50% SOC with one event. At 40% SOC, there were zero events.

Other tests have shown that thermal runaway may occur at 70-90 C for a 100% SOC battery and at 130 C for a zero percent SOC battery. Also, the maximum temperature reached during thermal runaway is reduced at reduced SOC.

### Determining State of Charge

SOC is not linear. 3.57V resting is pretty much empty - probably a single digit SOC percentage. Unfortunately, SOC measurement using voltage seems complicated and prone to error. Here are some references:

[http://batteryuniversity.com/learn/article/how\\_to\\_measure\\_state\\_of\\_charge](http://batteryuniversity.com/learn/article/how_to_measure_state_of_charge)

<http://www.mpoweruk.com/soc.htm>

[http://liionbms.com/php/wp\\_soc\\_estimate.php](http://liionbms.com/php/wp_soc_estimate.php)

As a hobbyist, we probably use something like the chart shown at right.

The chart is subject to the qualifications of the first three links. We could also come up with experimental numbers measuring our own LiPo batteries making a SOC graph for each individual LiPo that we own. I think the approximation in the chart is good enough for safety in the context of preventing fire. It probably does not matter a lot if what we think is 25% SOC is actually either 20% or 30%. A lot of what we do with LiPo batteries is choosing a golden mean between opposing evils - the evils of too much and too little.

Certainly 0% state of charge is the safest immediate fire risk. However, changes may happen in the battery at voltages below some number (2.7 volts?) that then make it a higher fire risk at a later time when charged. The evil of low voltage storage is that the battery may self discharge slightly in storage. If a battery at 20% discharges 3% over several months, we have not damaged the battery or created an enhanced longer term risk. Different story if the battery was stored at 3% and lost 4% (hypothetical) in storage.

3.82 has been recommended as a storage voltage for many years. Current thinking is that the golden mean may be a bit lower at 3.7X for better fire safety at very little risk of going too low.

Fuel Table Empty	3.209V
Fuel Table 10%	3.683V
Fuel Table 20%	3.747V
Fuel Table 30%	3.781V
Fuel Table 40%	3.812V
Fuel Table 50%	3.839V
Fuel Table 60%	3.863V
Fuel Table 70%	3.936V
Fuel Table 80%	3.999V
Fuel Table 90%	4.085V
Fuel Table 100%	4.199V

### What to do when a battery overheats

If a Li-ion battery overheats, hisses or bulges, immediately move the device away from flammable materials and place it on a non-combustible surface. If at all possible, remove the battery and put it outdoors to burn out.

A small Li-ion fire can be handled like any other combustible fire. For best result use a foam extinguisher, CO2, ABC dry chemical, powdered graphite, copper powder or soda (sodium carbonate). If the fire occurs in an airplane cabin, the FAA instructs flight attendants to use water or soda pop. Water-based products are most readily available and are appropriate since Li-ion contains very little lithium metal that reacts with water. Water also cools the adjacent area and prevents the fire from spreading. Research laboratories and factories also use water to extinguish Li-ion battery fires. Halon is also used as fire suppressant, but this agent may not be sufficient to extinguish a large Li-ion fire in the cargo bay of an aircraft.

A large Li-ion fire, such as in an EV, may need to burn out as water is ineffective. Water with copper material can be used, but this may not be available and is costly for fire halls.

When encountering a fire with a lithium-metal battery, only use a Class D fire extinguisher. Lithium-metal contains plenty of lithium that reacts with water and makes the fire worse. As the number of EVs grows, so must the methods to extinguish such fires. For more safety info, [click here](#).

### Conclusion

Our RC hobby LiPo batteries are at their highest risk when fully charged and when charging and discharging. Some elements of risk may be known to us-such as if we damage or abuse a battery. Others may be unknown to us such as damage before purchase or manufacturing defects. Risk is greatly reduced at SOC below 40%. The ICAO 30% or below aviation transport rule is one we might consider adopting for our homes and vehicles. We should consider these implications both at home and in developing future club practices and policies.

In the spirit of brevity, safe storage devices are beyond the scope of this article. However it would seem that storage at 3.75 volts per cell and in a refrigerator at home would be a low risk choice. ♦

## **Modeller Widow's Woes...** *Found in 1993 RC Modeler magazine – Retyped by Alastair Rivers- Jan 2017*

In the beginning of my husband's remote control airplane hobby, I was very excited for him. He had become bored with his work and the hum-drum of everyday life.

Ladies, have you ever tried to entertain a "bored" husband? There is absolutely nothing you can do to please him or entertain him. He paces the floor muttering to himself. He sighs constantly and sits here and there, flips the television channels with **his** remote control until you are absolutely cross-eyed. He is miserable and is intent on making you miserable as well. I was relieved to know that he finally had a hobby he was genuinely interested in and to keep him occupied during those bored times. There is the case of the retired man, who after 30-40 years of getting up every morning and going to work, finds himself with nothing to do. Psychotherapist's offices are making fortunes helping the retirees cope with not being needed or useful any longer and 'retirement'. To many, their salvation and yours, I might add, could be a hobby like remote control flying.

In my case, my husband's hobby became an obsession with him. It seemed as if it was all that he thought about and he cared about. I realized that my husband, who was once loving, attentive, and affectionate, had become very distant where we as a family unit was concerned. If my conversation didn't consist of ailerons, fuselage, crashes, etc., I was not being listened to or heard. I felt shut out and forgotten. Does this sound familiar? How many times have you gone to bed alone, while "honey" was upside down in a fuselage of a plane? Do you waken in the middle of the night to look lovingly upon your spouse's face, only to find him in the hobby room? In his sleep he had figured out how to mount the new engine. Have you ever taken any drastic measures to see if you could get his attention? Actually, at one point, I taped an airplane propeller to my nose and put wing covers on both my arms. I stood there in front of him feeling somewhat like an idiot, but nothing less it worked and I was noticed!

Just for the record, I can say that from the very beginning I have been very supportive of my husband's hobby. I accompany him to all of the fly-ins. I stop whatever it is I am doing to hold his plane while he attaches wings. ONE occasion, I have put my skinny little arms inside a narrow fuselage to attach and aileron whenever he needed my assistance. I have made and painted pilot dolls. So, it isn't like I haven't tried to be involved at all.

Soon I began to realize that I could resent this new pastime of my husband's very quickly. You see, in the past we had shared ourselves with one another. We were good friends and companions as well. Something had to be done to alter either my way of thinking or his way of doing. I also realized that if I were having these problems, perhaps other wives were having difficulties coping as well. Now, I know that there are men who need to get away from the house, children and wives. Their hobby is a way for them to gain the space they need. However, while frequenting fly-ins, I have been told by many modellers that they wish their wives or girlfriends could participate in their hobby or show some interest. They go alone but really would like to have their wives or girlfriends with them. Perhaps this could be accomplished if your wives or girlfriends formed a club in support of your particular flying club. Ask them for their ideas, thoughts and assistance. I think some wives would like to be involved but because of the type of hobby it is, they may seem somewhat inadequate. I certainly didn't know what **incidence** meant when we first started the hobby either. At least now I can talk somewhat intelligently about the subject and understand conversations. Also, since I work, I don't enjoy spending every free minute of my time on the flying field either. I go only when I want to go or want to be with my husband. I do, however enjoy meeting and talking to new people. In fact, I have gained some very special friends on the flying field. I enjoy watching my husband fly and have a good time.



In trying to be objective about all of this, I came to realise that my husband didn't love me any less because of this new hobby at all. Most men, in my opinion, have one-track minds. You see, women seem to be able to prepare a complete meal, take care of the children and read a book all at the same time. Men seem to get distracted more easily if there is more than one task involved. Yes, I thought, perhaps I was being a little selfish and somewhat impatient, but maybe the modeller is as well. You see, the bottom line is that we want and need you to share yourselves with us occasionally. Once in a while you could plan something to do together that isn't geared around airplanes. What happened to weekends at the lake or strolls on the beach at sunset? Yes, I know that sunshine and mild winds indicate a great day at the field. However, those days are good for other activities as well.

Ladies, on the other hand, your husband could be frequenting the local bar in the evenings, spending a great deal of money, rather than flying on a field with his companions. If you honestly do not object to your husband's hobby, then you have the space and leisure to water your "soaps", visit friends you haven't seen in a long time, cross-stitch, read, or even take up golf. You will have your interest and he will have his.

If though, after reading my article, you find your situation similar, consider some good old-fashioned communication regarding his needs and yours as well. Then, if all else fails, tie a banner to the end of his favourite plane with intimate words on it. That should get his attention, as well as everyone else's!

Yesterday is only a memory, tomorrow is simply a thought, today is now.  
Make today count. Happy Hobbies!

And that's it for another month. Thanks to those who contributed this month. Much appreciated.  
If you want to keep seeing photos and articles of what's happening , better send me some.

Have a great month .

Fly hard , land soft...

Don  
Editor