



BULLETIN OF THE AUCKLAND MODEL AERO CLUB INC. EST. 1928

**April 2016**



Angus Macdonald explaining the motor installation in the latest 8Ball, to Keith Trillo and Brendon Neilson.



# Tomboy & Texaco

Tomboy and 1/2A Texaco will be flown as a monthly competition at either the AMAC field at Karaka or the Tuakau Club field.

Contact Keith Trillo for confirmation of site and possible postponement,  
Mobile: 027 460 7180.

AMAC placings count to event Club points

## Slipstream contributions

Contributions of photos and information about latest projects are very welcome for the Building Board section of the bulletin. Field reports and articles are too!  
Please just send them in.

**Deadline for articles for the May Slipstream is April 22.**

## Editorial – A great (small) Nats

Having made the pilgrimage to the Nats at Carterton many times, I have a good frame of reference to offer reflections on the Nats just ended. In the build up to the Nats, I, like many others, wondered how appealing the Easter time-slot might be to the regulars, many of whom, I am sure have scarcely missed too many Nats over the decades. I am sure that most would agree that initial registrations did not look too promising. However, closer to the time and particularly in the last week, numbers did build and most SIGs were able to hold most events as 'official' as they had reached the minimum three entries. The live totals listing on the website is truly a marvellous innovation and must have given some psychological incentive for entries, as well as publicising the classes.

While the weather in the first two days caused its share of event postponements, day three dawned calm and largely dry, heralding good weather then and on the following days. While it blew or rained, there was always indoor to think about or to contest and the hall was well used. Discounting the logistics of travel to the Nats (particularly over the Easter period), Carterton is a great venue, with open fields and easy travel from one site to another, not to mention the nostalgic memories many of us have, contesting our events there over the years. Accommodation showed a definite switch to motels rather than camping and an absence of many of the usual popular tents, close to the kitchen.

Importantly, holding an Easter Nats rather than in the customary January period was likely to be an inconvenient time for some stalwarts and this proved to be true. Family time and Easter commitments are a very understandable reason for a number to be unable to attend. Another argument for an Easter Nats was the presumed more settled weather. Unfortunately, there seems to be some variability in weather patterns in our island location, most of the year round and we all hope that we have five good days of weather for flying.

Despite the smaller numbers, this was still a great Nats, made so, by good organisation at HQ and the usual tireless, often under-appreciated time and effort put in by Nats manager, Recording Officer, front desk registrar, CDs and judges, without whom the event would not happen. As an informal survey showed, an important incentive in coming to the Nats is the camaraderie and friendships made and renewed. But the Nats are primarily a national contest and honing one's skills to compete and fly well, having adequately prepared for events must be a priority. I am sure that the return to Waharoa next year will result in a bigger Nats.

Stan Mauger

## Postal Plan Scale Competition 2016 Now under way

Any rubber powered scale model built from a published plan (or kit) qualifies. Flights may be put in at any site including your local park as long as the flight is timed by someone else.

# Monthly Club Night - Mike Fairgray reports

7-3-16

Present were Ricky Bould, Paul Evans Mike Fairgray, George Fay, Angus Macdonald, Stan Mauger, Bill McGarvey, Mike and Liam Mulholland, Brendon Neilson, Geoff Northmore, Arthur Pearce, Bryan Spencer, Don Spray, John Swales, Keith Trillo, Stephen Wade, Charles Warren and Keith Williamson.

Indoor events at Balmoral on the last Monday in March, Morrinsville indoor meeting on 15th May and indoor trimming night at Drury on 17th March were noted. Mike Fairgray reminded members of the AGM on the next club night, 4th April. He requested that where possible next year's club subscriptions to be paid using on line banking as the club now had direct access to the club account. Members would be receiving a reminder notice by email and anyone wishing to pay the subscription to be able to use the facilities at the Karaka Sports Park should include this when paying the Club subscription.

## **Tonight's theme models for the Nationals and indoor at Morrinsville.**

First up was Charles who had a brace of models to be flown at the Nationals. His Lanzo Bomber Cox engine had been modified to achieve good engine runs by changing the head with less cooling fins and placing four gaskets under the head to lower compression. To better protect his fingers from the prop, he had extended the needle. His other models were, So long powered by a 1.5 PAW, F/F Tomboy for Aggregate (this model had been broken and rebuilt a number of times) and another Tomboy.

Keith Trillo had his Tomboy and being frustrated by the amount of engine discharge that continually covers the model after each flight, he had embarked on some corrective measures to overcome this. He had fitted a fibreglass deflector which kept the residue away from the fuselage collecting it under the engine and a strategically placed hole in the front of the deflector allowed the residue to run out when the model was tilted forward. Using an on-board telemetry device indicated that the Tomboy has reached 400 feet.

George Fay had finished his FW187 Falke rubber powered free flight twin and this has since flown well at Karaka. The wing is held to the fuselage by a magnet. The 3 bladed contra rotating props were made with flexible shafts so that they would bend rather than break should they be turning when the model landed. Once wound, one prop was held with a pin and released on launch. Equal turns and amount of rubber were required for each side, or the model would turn in the direction of the side with more turns or rubber.

Angus was progressing well with his large 8Ball, with the fuselage all but completed. The fuselage is made up of compound curves, which Angus has been able to replicate with amazing finish. He said that it was a lot easier to incorporate the necessary electric equipment in the larger model and he had made a fibreglass cowl that slid over the nose area. When removed there was easy access to the motor and electronics. There was also a hatch in the underside of the fuselage to allow access to the servos. The cowl will be fitted with an air scoop to allow air in to cool of the electronics. The battery use would be an 800 milliamp Lipo battery. The model is 1.6 times the standard 8Ball.

Ricky Bould had his Avetek Tiger Moth, which was well on the way to being trimmed, with



**Upper:** Charles Warren's Nationals models including (from the top), Tomboy, So Long, Lanzo Bomber and (lower) Tomboy.

promising flights so far. Stan Mauger had a KK Auster Arrow originally built for indoor but now flown in outdoor Kit Scale Rubber Free Flight. The model was built to Stan's excellent standards. So on that note it was time for tea and biscuits.

## **Discussion on the Elbow Site.**

The discussion regarding the application to have Elbow site designated as a flying site for model aircraft was held prior to the table discussion. Charles opened up the discussion by giving a brief overview. There were several questions raised by members. What follows is a synopsis of the discussion.

### **1. How much will the application cost?**

So far there had been no costs received from Council and these could range from several hundred dollars to several thousand depending on the time spent by Council. Cost for a Noise report on the site was costed at \$1500. The Iwili can charge up to \$500 for a consultation. There are two Iwi involved, and no costs had been received to date but were expected to be low.

### **2. Resource consent could cost several thousand dollars. Was there an indication as to how much this may cost?**

Not at this time, however, the site was already zoned as recreational so the cost should not be as high as a resources consent which re-zoned the site. The Council are also required to support recreational activities in their area. The costs would be split three ways so AMAC would not be required to bear the full costs.

### **3. Which clubs are involved?**

Three clubs - Tuakau, AMAC and Papakura.

### **4. What number of members does each club have at this time?**

It is thought that Papakura has about the same membership as AMAC and Tuakau have a good number of members and are working on becoming an Incorporate Society.

### **5. How will the costs and management of the site be controlled?**

MFNZ has now become involved and taken the lead in this project. They want the site to be a Regional Site and will consider finance as a loan towards the costs. A committee is in the process of being formed to steer the project with the NNI representative as Chairman. Tuakau have low reserves of finances but as they are the only club who reside in the area their involvement is vital for the application to succeed. MFNZ are offering them assistance to ensure that they are able to continue to be included in the project.

### **6. How many AMAC members are expected to use the site?**

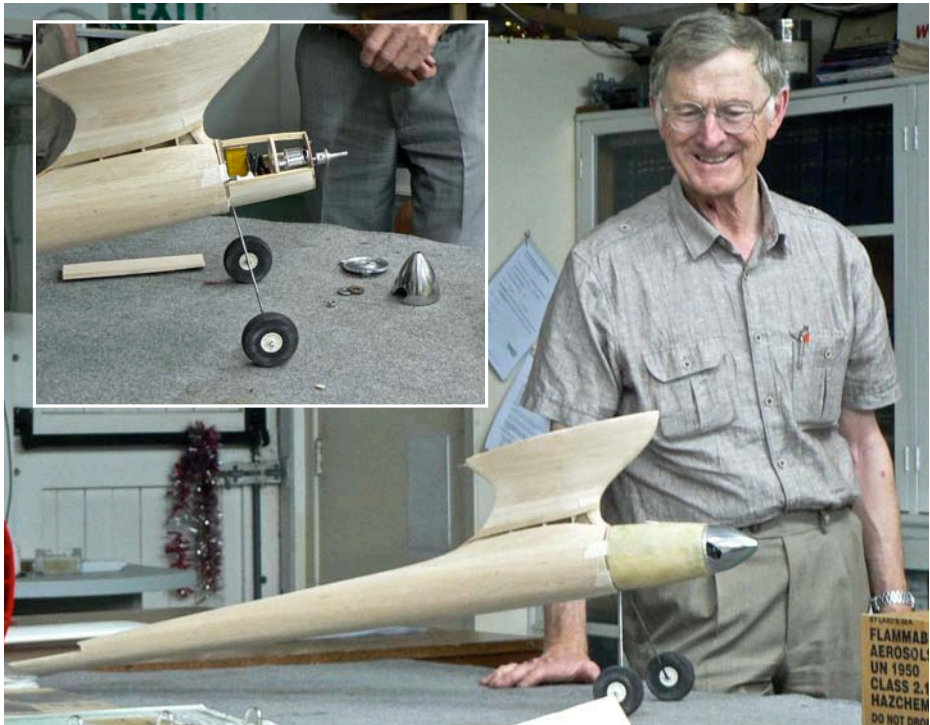
At this time the number of members using the site is low in the region of six to eight members but expected to grow once the site is approved.

### **7. The cost of the application per member usage could be as high as \$2,500. Is it worth spending this amount?**

There is a need for an approved site in the area and AMAC needs to be part of the group to ensure a permanent and approved are available to its members.



Following the Nats theme, Ricky Bould's Avetek DH Tiger Moth for Outdoor Open Rubber Scale (upper) and Stan Mauger's KK Auster Arrow for Outdoor Kit Scale (Lower).

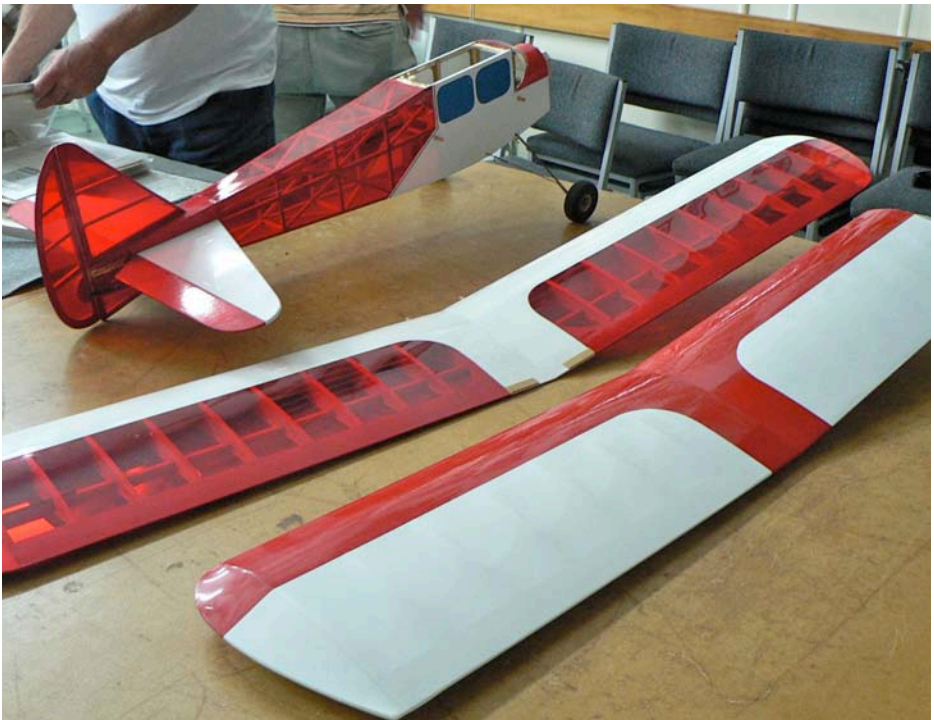
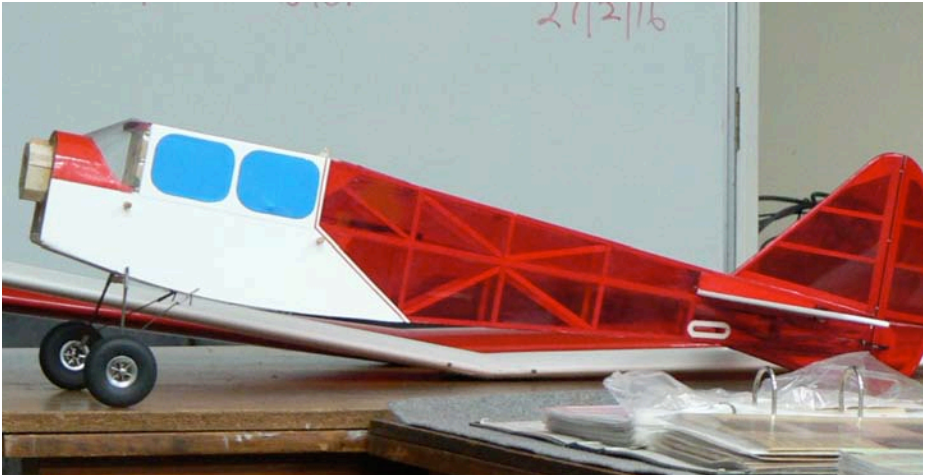


**Upper:** George Fay's FW187 Falke, now well flight-tested.

**Inset:** The motor installation in Angus Macdonald's new large 8Ball.

**Lower:** Charles Warren examining Angus's handiwork.





***This page:***  
An unidentified RC Model brought along by Angus Macdonald, found a new home with Brendon Neilson.

## Flying at Aka Aka and Elbow Road - Charles Warren

### AKA AKA

Brendon Neilson flew his Red Zephyr until the wing swivelled round when the rubber bands all broke except for one. Then he had some good Tomboy flights getting to maximum permitted altitude. Charles Warren flew his Lanzo Bomber now ballasted to eighteen ounces, followed by his Red Zephyr and then his Scram.

### THE ELBOW

A group of modellers turned up to fly their models at the Elbow Landfill site while the noise produced was measured. Unfortunately Ron Wilson's large Extra clipped the top of an Alder tree on the approach and suffered damage before the test started. Stuart Ward had lots of flights with his large yellow Tug. A Papakura member flew an EDF Venom and another flew a Fletcher with a 2 stroke power.

Charles flew his Red Zephyr for two flights but the second ended with a spiral dive into the river. The plane was quickly retrieved by a boaty but is a write-off, as it appears to have hit the bottom in shallow water judging by the damage! Examining the wreck afterwards it appeared the receiver battery had come loose prior to the impact as there was no damage to the battery box from the impact and if the battery was still in it would have been expected it to have broken the box. He must have been too slow at the top of a loop so that the battery dropped out of the top of the box and was loose inside the fuselage and eventually disconnected from the receiver. There seem to be a few lessons there! We await the report on the amount of noise our activities were generating.



**Left:** Charles Warren's large Scram dusted down and taken out for some test flying at Aka Aka.

### Opposite page

**Upper:** The scene at the Elbow Road site before flying got under way. Charles's ill-fated Red Zephyr in the foreground and AT40 low wing conversion to the right.

**Lower:** Stuart Ward adjusting power on his Greenly Glider Tug.



# Karaka diary - Keith Trillo

6-3-16

On my way to our regular flying field I noticed Don Spray flying rubber scale at the Karaka Sports ground. Weather was good for model flying, so I went to the Karaka Sports ground early to test fly my E rubber Yonder. The Scale Modellers were already in attendance and as I was leaving to go to our regular field Angus Macdonald turned up and stayed, where he flew his 8 Ball, then came to our regular field after finishing flying.

Those present were Charles Warren, Bryan Spencer, John Swales and Keith Trillo. Bryan and Keith flew 1/2A Texaco models, the first time for a while, with Bryan also flying an E Tomboy and Keith an IC Tomboy. John Swales had good flights with a Leadfeather Yak 55

## 1/2A Texaco

Keith Trillo	9:15	10:22	Skipper
Bryan Spencer	7:32	6:36	Slicker

## E Tomboy

Bryan Spencer	4:52	4:15	3:58
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## IC Tomboy

Keith Trillo	4:24	3:45	2:24
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**Above:**  
Angus Macdonald's 1/2E Texaco 8Ball gliding in.

### Opposite page

Before the flying, (from left) Keith Trillo, Charles Warren, John Swales and Bryan Spencer. Model lineup (clockwise from the left, Skipper, Tomboy, Leadfeather YAK55, Tomboy, electric and IC Slickers.

13-3-16

Another good morning for flying with good lift from mid-morning giving long flights. Present were Angus Macdonald, Bryan Spencer, Keith Trillo and visitor Charlie Stevenson who helped out with the timing. My IC Tomboy, which is equipped with altitude reporting telemetry, shows that it is capable of reaching 900ft. This is close to the max altitude allowed by our model flying area D225 which goes from surface to 1000ft above our field. This zone is only valid on weekends and public holidays.

**E Tomboy**

Keith Trillo	10:53	10:45
Bryan Spencer	5:46	10:06

**1/2E Texaco**

Angus Macdonald	16:34		8Ball
Bryan Spencer	10:35	10:21	Slicker

**E Texaco**

Angus Macdonald	9:24	10:55	8Ball
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**IC Tomboy**

Keith Trillo	4:10	9:30
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**1/2A Texaco**

Keith Trillo	3:1	13:40
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**Above:**  
George Fay's FW187 off for a good flight (top) as seen above.  
**Inset:** Ricky Bould had his Veron Luscombe Sedan flying well.



**Above:**  
Upper: Don Spray's rubber powered  
Stahl Stinson Voyager on the glide.

**Above:** George Fay's Folkerts SK3  
Racer climbing from the launch.

## On Lloyd Hull's building table - Charles Warren

We paid a visit to Lloyd's house while Brendon and I were flying at Aka on Friday 26th February. We had a great day flying and then adjourned for tea with Lloyd and Sheena. We inspected his modelling room (looks as if it doubles as the guest room as it is equipped with a double bed) and he gave me permission to report on his latest project. Lloyd bought from Slipstream Models in Mangere just two weeks before, a part- built Great Planes Piper Cub kit. This was to replace one that had come to an abrupt halt on a post and rail fence which surrounds his own garden! The new one is 6 ft 5in (1960mm) span designed for 40-60 2stroke motor but he is converting it to electric using a Hyperion out-runner HP-Z4020-14 powered by a Hyperion 4S 14.8V 4270 mAh battery and driving a 12x10 APC prop. His radio is a trusty JR PCM9X11 using 40.83 crystal (none of your fly-by-night giggle-hurts stuff for our Lloyd)!

The wings and control surfaces were already finished and covered in Monokote gloss film. Wings upper surfaces and all control surfaces opaque white. Wing tips are dark blue and underwing surfaces transparent blue. The fuselage was uncovered when he bought it. In the two weeks he has had it, he has built the nose of the fuselage to accommodate his power-train with a suitable cooling duct for the motor, ESC and battery and he has covered the fuselage in dark blue and yellow Solartex. He has equipped it with extra-large six inch wheels (I think this is so that he does not have to mow the strip anymore) and he has covered the tail unit fixed surfaces in glossy dark red Monokote (probably to assist orientation in flight after his last Piper flight). He still has to fit the struts, undercarriage fairings and peg the control surface hinges and connect the control rods.

We look forward to seeing this new Piper in the skies with young people skipping along behind and all rats drowned in the river.





## Balmoral and Drury Indoor nights- Stan Mauger

29-2-16 BALMORAL

This was a low-key Balmoral evening with no scale competition flying. Those present preferring to spend the available time on trimming and practice flights.

It was as much a Hangar Rat evening as a scale night. Keith Trillo concentrated on trimming out his Peanut Fike and achieved a good flight time of over 40 seconds on its last flight. Don Spray took the opportunity to re-trim his Luton Minor from outdoor flying and his Airsail Auster was also seen on a brief flight. Stan Mauger had replaced the prop spindle on his KK Cessna 120 and after taking out some downthrust had the model flying well.

John Swales was putting in great flights with his Hangar Rat while Patrick Roxburgh is well on the way with getting the best out of his new model. Angus Macdonald offered some assistance in this, but also had two Hangar Rats of his own to trim out, both of which in Angus's words "are getting there".

John Swales was also seen flying his RC profile Cub in spritely circuits of the Hall. Lloyd Hull, Donn Sharp and his son Tim, came and had an enjoyable evening as spectators.

17-3-16 DRURY SCHOOL HALL

A small group of indoor fliers had an enjoyable evening of pre Nationals indoor flying in this very suitable hall and were joined by Donn and Rachel Sharp. Gwyn Avenell and Mike Mulholland took the opportunity to sort out Hangar Rats. Keith Trillo, Patrick Roxborough and Angus Macdonald were also hard at work getting their Hangar Rats trimmed, each achieving good times. Keith also put in some flights with his Peanut scale Fike. Don Spray was hard at work trimming his Airsail Auster AOP9 and had his Peanut FRED climbing away well. Stan Mauger spent most of the evening trimming his kit scale KK Cessna and Fleet Canuck for open rubber. After such a great evening the consensus was – Lets do it again soon!



**Left:**  
Don Spray checking his AOP9 and beyond, Gwyn Avenell and Mike Mulholland hard at work on setting up their Hangar Rats.

# How To make a Rubber Powered Scale Model Fly Like an Open Rubber One - George Fay

My recently built model of the Folkerts SK3 Racer may not be quite the ideal concept for most scale high wingers such as Austers, Cessna Tiger Moth etc, as they tend to fly more sedately. The Folkerts SK3 Racer is based on the full size 1937 racer built by a mechanic Rudy A Kling. With a Wing span of 16.8 feet, length of 21 feet and powered by a 400hp inline engine, it had a top speed of 275mph and was raced many times including the Thompson Trophy.

Some time ago I had built the Peanut version of the Folkerts. I calculated the enlargement of the plan wrongly - it came out 'Pistacio' size! However, I had built it and had a few unsuccessful sessions to make it fly. One day I was going over some back issues of the Aeromodeller and came across an article by Don Munn with this huge rubber powered SK3 racer, spanning 54 inches and a length of 74 inches, claiming 6 minutes flights in calm morning air (hard to believe). The Peanut version of the Folkerts established a U.S.A indoor record in 1977 of 3 minutes 40 seconds. Anticipating that I build something in between, I felt that I should see a model that could fly reasonably well.

With my favourite tools - calculator and tape measure, I drew up a plan using the Peanut drawing as a guide, a model with a 30 inch wing span and fuselage 35 inches in length was the result I envisaged. Building commenced with the fuselage, a simple box construction, with appropriate curvature on top and bottom and stringers added. Sides of the fuselage for mid-wing fixing are reinforced with balsa and ply laminate. I had managed to plot out the wing ribs for the short stubby wings using Clark Y airfoil section. Wash out was built into both wing tips. Wings are attached to fuselage via magnets and rods and are set at an incidence angle of 3 degrees. The tail feathers were straight forward with adjustable elevators. The model is covered in yellow Jap tissue. I opted not to paint it to keep the weight down to a minimum. The total weight with noseblock and propeller minus rubber, came out at 260 gram or 10 oz.

Now to the exciting phase - does it fly? Flight testing began late last year down at my favourite local park where there is a long grass area. Gliding the model was a breeze once the c.g. was sorted. A few hand turns were applied, a perfectly good start and no bad vices. Stretched winding with a winder was next with ten strands of 3/16 rubber 30 inches long on a 13 inch propeller. Working up to 500 turns, flight was low level but stable.

Definitely more power was needed. Over the weeks more strands of rubber were added until it was climbing and circling at a reasonable height. Fourteen strands of 3/16 rubber was installed and this was when all the fun started! On two separate occasions the model flew into the surrounding trees of the fairly large park. One time, one wing lodged in the branches, the fuselage with the other wing still attached crashed on to the concrete pavement. The top front half of fuselage was damaged, but the other wing was retrieved by a lad who was watching the proceedings. The other incident into the trees again (same area) was not too far up, but no way could I get to it. However a very nice young lady out walking her dog, saw the predicament I was in, offered to climb the tree to fetch it. After a couple of

attempts she couldn't quite make it. I went home, got the window washer, extended it and after a few prods, down it came with very little damage.

Major disaster struck on another occasion when attaching a fully wound rubber of 700 turns on to the prop shaft, it slipped out off my hand almost obliterating the fuselage rear of the motor peg. More repairs and the Folkerts is no longer in pristine condition.

I had remembered reading a article by the famous Mike Midkiff who said "she ain't trimmed unless its flown at least 50 times and in all weather conditions" so, with those words ringing in my ears, 16 strands of 3/16 rubber (40 feet of it) was loaded into the fuselage. Now, things were starting to get exciting! On 650 turns it climbed and circled as if it was on rails in a flight lasting about 25 seconds, with scale speed and perfect landing one foot in front of very large flood light standard.

One more thing to try was a 14 inch free wheeling prop on 400 turns - open rubber stuff whew! For one in his mid seventies and weighing 60 kg, winding all that rubber and not to mention the odd long retrieval thrown in, maybe its time for me to build and fly those Austers, Tiger Moths and such. All in all I have been pleased with this scratch-built project and it has been very satisfying.

P.S. Might build another one lot lighter!



Hold on to that model Xavier!

## Soap Trail - Stan Mauger

I recently came to the end of my supply of SIG Rubber Lube, an essential standby for lubing rubber motors for a number of years. Being a traditionalist, I set myself the task of tracking down another jar, but alas, I could not find a local supplier and Internet freight rates from the U.S. left me breathless, not to mention the risks in shipping glass containers. I had an inkling that lube was made from green soap and glycerine, going back to the days when every club had a line-up of Wakefield fliers. The glycerine part was easy, just a trip to the local chemist, but green soap, what exactly was that?

I remembered the workplace soap dispensers years ago had green soap for hand-washing, but that seemed like a liquid version of hand soap and lube surely must have something much kinder to rubber.

Going to the Internet again I found that green soap is “a soft soap made from vegetable oils with sodium or potassium hydroxide in concentrations adjusted to retain glycerol. The soap actually may be any color, depending on the oils added” (O’Toole, 2013). Fair enough, but where do you get the stuff in a land where chemists and supermarkets do not sell this product?

Further Internet searching showed that probably the chief users of green soap are in fact the tattoo industry. More searching, confirmed this, but revealed that their product uses a tincture of green soap, that unfortunately must contain some form of alcohol. Not what modellers want to bring in contact with rubber motors. As Don Ross observes in *Rubber Powered Model Airplanes* (1998), “. . . you must simmer the green soap to remove the alcohol, since the drugstore stuff is really a “tincture” of green soap that is mixed with alcohol” (p.88). He does not say how long it takes to simmer out the alcohol, or whether a change in smell or constituency will provide a clue to when it is boiled out. Once I had sorted the green soap question, adding the equal part of glycerine seemed to me to be a breeze.

There had to be an easier way, short of switching to silicone sprays, and I think that I have at last found it. Some model sources suggest that a soft soap is all that is needed for the soap part of the recipe, but a lot of searching failed to turn up a soap that seemed to possess the simple natural formula of the original green soap. However, since the days of more widely available green soap, the ‘Eco’ movement has encouraged the development of plant based, or at least soft mild liquid soaps. One brand, ECO Store, has a formulation that to the non-chemist in me reads like a soft soap. My only concern was the existence of phenyloxyethanol that sounded like a petrochemical compound, but at a small proportion of the ingredients (less than 1%), could hardly be a risk to rubber. Eco Store’s Fragrance Free Body Wash formula is the closest that I have found.

I am grateful to Bill McGarvey for information on traditional lube mixes and to Ron Magill, also a long-time free flight flier well versed in chemistry and the formulation of rubber lubes, for their wise counsel in this. Along with discussions with other chemists, I think that I may have a soap that will work. Bill has given me a jar of green soap via Ron, and I have taken this as a control sample for comparison.

## The test mixes

Using a formula of (roughly) equal parts of glycerine and soap, I made up a brew of green soap based lube and then ECO Soap based lube. It should be noted that soap and glycerine do not combine easily with mixing. Some heat is needed to coax them into a mixed state. The traditional way is to heat them in a pot on the stove. I chose to micro wave the mix starting with 30 seconds, then checking how mixed it was and then giving it another 30 seconds and so on until it stayed in suspension and did not separate out.

My preference is for the ECO Soap mix, it seems less messy than the green soap version. This provides a suitably wet and greasy lube that is easy to apply and allowed the usual number of turns on a test rubber motor. I have yet to do enough tests to determine whether I like it better than silicon lubes.

## References

O'Toole, M, (2013). *Mosby's Medical Dictionary* (9th ed.). Philadelphia, PA: Elsevier.

Ross, D. (1998) *Rubber Powered Model Airplanes*. Hummlestown, PA: Aviation Publishers.



**Left:** Soft soap ingredients, ECO Fragrance-Free Body Wash and glycerine (also called glycerin and glycerol).

**Below:** Traditional green Soap/glycerine mix and beside it, ECO soap/glycerine mix.





# London Imperial War Museum - Mike Fairgray

The IWM London is situated in Lambeth Road, an easy distance from central London. It was founded in 1917 and in 2014 underwent a major development designed to commemorate the Centenary of the First World War. The Museum entrance is flanked by two barrels of a BL 15 inch Mark I heavy naval gun. This design was the most widely used and longest lasting of any British designs, being deployed on capital ships from 1915 until 1959, and was a key Royal Navy gun in both World War.

Entry to the Museum is on level one. There are five levels, each of which is interconnected by a series of zigzagging stairs, each level housing a different themed exhibition. The centre open area houses all the larger exhibits such as V1 bomb and V2 rocket, Harrier, Spitfire, Sopwith Camel, Gun Carriage, and a destroyed car which was used as a suicide bomb in Baghdad. Floors are made up of galleries around the four sides of the central open area. Each gallery holds exhibits covering several wars. Sea battles were shown in relief maps of the battle area which changed as the battles were fought. Several large scale models of the various types of ships both naval and merchant involved in those battles were on display as well as naval guns.

Moving on to the First World War special Centenary exhibition one could move through trenches, look through a periscope that had an ever-changing scene, making it very realistic. A Sopwith Carmel was suspended over the trench and with the aid of sound and changing lighting gave the impression that the aircraft was actually flying overhead. A good display of uniforms, and weapons, both large and small, were on display with a number of projectors showing different phases of the War.

The Second World War exhibition had the nose section of a Lancaster with a clear view panel at various locations so the controls and equipment inside could be seen. Tanks of various types and staff cars from both the English and Germans were also display. The usual assortment of uniforms, weapons, films and dioramas completed the visual effects. There was a very interesting section on the "Secret War" showing the various equipment and documentation that spies used during WW2. The displays showing the effects of the war on the civilian population was well done, covering the hardship as well as the various services that civilians manned in and around London.

The next section catered for the later wars and covered Northern Ireland, Falklands, Afghanistan and Iraq. It documented the arms race to the development of rockets and missiles. The UN activities were also well represented. Around each gallery in between the gaps between pillars a number of exhibits had been pushed out so that they appeared ready to fly out and crash to the floor below. It was a great visual effect that made things all the more interesting. There was also a very moving exhibition dedicated to the Holocaust. In summary the LIWM has a lot to offer to a wide range of interests and is well worth a visit if you are ever in London.

## **Opposite page**

**Upper:** Harrier Jump Jet and Spitfire suspended above V1 bomb and V2 rockets to the right.

**Lower:** Lancaster front fuselage section allows close inspection of internal controls and equipment.

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FREE FLIGHT  
**SCALE DAY**



Sunday **April 17**, Patetonga  
from 8.00am

## Trophy events for free flight scale classes

- F4A power scale • Rubber scale • CO2 / Electric • Kit scale
- Plan Scale entries

Intending fliers and visitors please check for cancellation because of weather conditions, by calling Stan Mauger on 575 7971 before departing.

Organised by the Scale Free Flight and Control Line SIG in conjunction with AMAC

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## WANTED

**A source for good old Plasticine.**

Does anyone know where this can be found in local shops? Please contact Don Spray 828 4892 if you can help.



Free Flight contest days

# Indoor flying at Morrinsville

Next flying day

**Sunday May 15, 2016**

- **Hangar Rat • HL Glider**

Flown to MFNZ rules

- **Push E**

Flown to AMAC rules

- **F4D Rubber Scale, F4F Peanut Scale**

Flown to FAI rules. Refer to link on MFNZ website under Scale FF & CL SIG

- **Kit Scale**

Flown to rules on MFNZ website under Scale FF & CL SIG

## Come and join us

**Venue:** Westpac Stadium Hall, 21 Ron Ladd Place, Morrinsville

**Programme:** **9.45am** Arrive and unpack ready for start time

**10.00am** Hangar Rat, Push E and HL Glider  
Scale static judging until 12.30pm

**12.30pm** Peanut Scale, Rubber Scale, Kit Scale

**3.45pm** Prizegiving.

**3.55pm** Hall vacated.

**Fliers Entry: \$20.00**

## Spectators welcome

Contact Stan Mauger 09 575 7971, stanm09c4@gmail.com for more information



Organised by the Auckland Model Aero Club Inc  
in conjunction with the Scale Free Flight & Control Line SIG

## Calendar April

For information about the location of club fields and cancellations or postponement of flying, contact the field stewards.

### KARAKA

Sundays

**Tomboy Extravaganza** (*for Club points*)

Flying can take place between 10am and 2pm  
(9am to 3pm for gliders and other silent models)

**NDC events** See below

**Karaka Steward**

Keith Trillo 09 298 4161 027 4607180 careith@hotmail.com

### HOTEO

February

**NDC FF events** including Vintage FF Power Duration,  
Nostalgia FF power Duration, Nostalgia FF Rubber Duration,  
Classic FF Rubber Duration,

**NDC events** See below

**Hoteo Steward**

Paul Evans 479-6378 zipl@xtra.co.nz

### PATETONGA

April 17

All Free flight Scale Events - see notice on page 24  
(*for Club points*)

### AKA AKA

Saturdays & Sundays

Intending fliers should phone Brett Naysmith  
to confirm that there will be flying.

Instructors

Grant Domigan and Brett Naysmith

**Aka Aka Steward**

Brett Naysmith 09 235 8803 brejo@xtra.co.nz

### CONTROL LINE

**Contact C/L Steward**

Stan Mauger 575 7971 stanm09c4@gmail.com

### INDOOR EVENTS

**Balmoral**

**Cancelled because of Anzac Day**

**Ellerslie**

**Michael Park School Hall**

Tuesday April 12

Indoor radio flying [7.00-10pm]

Tuesday April 26

Indoor Radio Scale including ARF Scale, Simple Scale and  
Full Scale classes [7.00-10pm] - *for Club points*

**Indoor Steward**

Bryan Spencer 570-5506 bspencer@xtra.co.nz

## NDC Calendar April

### Free Flight

Kiwi Power  
Open Glider  
1/2A Power  
Catapult launched Glider  
Hand launched Glider  
Open Power

### Vintage

Nost FF 1/2A Mini Replica  
Classic FF Duration  
Vint RC 1/2 Texaco Scale  
Vint RC 1/2E Texaco  
Vint RC A Texaco  
Vint Classic RC Precision

## Calendar **Looking ahead**

The following flying events are scheduled for the year. Note that weather may cause cancellation of some outdoor events. Refer to the contacts for possible cancellation before departing to the fields.

**PLEASE ADVISE ME OF ANY OTHER EVENTS DURING THE YEAR THAT COULD BE INCLUDED IN THIS CALENDAR - ED**

### **HOTEO**

**June 19** Free flight Scale Day Hoteo  
**October 16** Free flight Scale Day Hoteo

### **MERCER**

**29 May** Combined Control line scale day with Free Flight Club  
**28 August** Combined Control line scale day with Free Flight Club

### **MORRINSVILLE**

Westpac Stadium

**May 15** Indoor free flight events  
**October 9** Indoor free flight events  
**Events:** HL Glider, Hangar Rat and Push E Free flight classes  
Open Rubber Scale, Peanut Scale and kit Scale

### **PIAKO ROAD**

**April 16** 67th Waikato Free Flight Champs - 9.00 am - 2.00 pm  
**May 7** Waikato Nostalgia Free Flight Champs-9.00 am - 2.00 pm

## **Waikato Nostalgia Free Flight Champs** **Saturday May 7th 2016**

9:00 am - 2:00 pm Piako Road  
\$5 Field Fee Liquid 1st Place prize for FF events

- |                             |                 |              |         |
|-----------------------------|-----------------|--------------|---------|
| 1. Power                    | 3 x 120         | 2. Rubber    | 3 x 120 |
| 3. Glider                   | 3 x 120         | 4. Precision | 3 x 120 |
| 5. HLG / CAT                | 6 x 60          |              |         |
| 7. RC Tomboy IC or Electric | (2S, 180mA max) |              |         |

Models for 1-5 may be from Vintage, Nostalgia or Classical periods  
Fly-offs at 2:30 CD : Bernard Scott scott.scott@xtra.co.nz

## OFFICERS OF AUCKLAND MODEL AERO CLUB INC.

Patron	Angus Macdonald	575-7232	angusmac@xtra.co.nz
President	Charles Warren	09 238-9430	cpwarren@ps.gen.nz
Vice President	Paul Evans	479 6378	ziply@xtra.co.nz
Secretary	Mike Fairgray	636 8439	amacsecretary@mail.com
Treasurer	Mike Fairgray	636 8439	amacsecretary@mail.com
Club Captain	Stan Mauger	575-7971	stanm09c4@gmail.com
Recording Officer	Keith Trillo	298 4161	careith@hotmail.com
Bulletin Editor	Stan Mauger	575-7971	stanm09c4@gmail.com
Committee	Ricky Bould	478-8949	unimec@ihug.co.nz
	Don Spray	828 4892	drlmspray@xtra.co.nz

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## Club subscriptions

NZMAA Affiliation is mandatory for Club flying

**Senior** \$50 (+\$70 NZMAA)    **Family** \$55 (+\$75 NZMAA)

**Junior** \$10 (+\$20 NZMAA)    **Social** \$40

Intending members with current NZMAA affiliation pay only the AMAC sub

### Please make payments to

The Treasurer Auckland Model Aero Club

Mike Fairgray,

3 Kanohi Tce Mangere Bridge 2022, Auckland

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## NEXT CLUB MEETING AND NATTER NIGHT

Monthly club meeting

7:30 PM

**Monday April 4, 2016**

ASME Clubrooms, Peterson Reserve, Panmure.

## AGM plus

**Theme: model aircraft projects**

### Items for the table:

Models, plans, engines, photographs etc

### Trading table:

Buy, swap and sell

**Visitors or intending members welcome**