

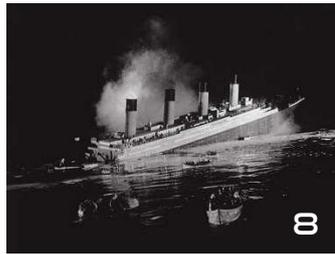
REC WINGS

THE MAGAZINE OF THE CANTERBURY RECREATIONAL AIRCRAFT CLUB



- NEW ZEALAND'S FIRST ELECTRIC PLANE
- THE BASICS OF FIRE
- HEADSETS
- CLUB UTE
- MONCRIEFF AND HOOD

NOVEMBER-DECEMBER 2020



RECWINGS

is produced by a keen group of individuals within the **Canterbury Recreational Aircraft Club**.

To subscribe to the e-mailed edition please contact editor@crac.co.nz.

For back issues, head to www.crac.co.nz/magazines

Contributions for the next edition are due by **January 14th, 2021**. We invite contributions from all, with editorial discretion being final.

Brian Greenwood
editor@crac.co.nz

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Cover, Gary Freedman peels away in the perfect Pipistrel Electro
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PIPISTREL ALPHA ELECTRO

BRIAN GREENWOOD

Club Member Gary Freedman initially had the idea of operating an electric aircraft back in 2016. "I was driving an electric car but flying a petrol plane. It just wasn't good enough, so I set out to find a solution. On the pretence of a family holiday in Slovenia, I visited the Pipistrel factory and flew in the Alpha Electro. I was hooked, and the rest is history," he says. "At that time, I think more people had been to space than had flown an electric plane, so it was an amazing experience. I looked around and just thought 'why aren't more people doing this?'"

Returning to New Zealand, he formed ElectricAir, a social enterprise company with a mission to "promote the uptake of electric aircraft to reduce the aviation industry's greenhouse gas emissions."

ElectricAir attracted grant funding from Christchurch City Council's Innovation and Sustainability fund. Christchurch Airport and Airways have provided logistical support and Meridian Energy came on board as the energy sponsor.

Flight schools are the initial target market for the Electro - the aircraft is available now, and the economics stack up. The plane is designed as a trainer with flights of up to an hour, plus a 30-minute reserve. Then it simply plugs in to a dedicated charger and is ready to go again in an about an hour – enough time for the instructor to de-brief, have a coffee and re-brief their next student. There is no warmup required, so less time wasted on the ground. The higher capital cost should be balanced by the reduced maintenance and





fuel costs. "There are just fewer things to worry about because there are simply fewer moving parts. No spark plugs, no exhaust, no combustion engine and the problems that come with them," he says.

Looking further, Gary believes that the future of short-haul commuter aviation is electric. He cites the flying times for our longest internal flight (Auckland to Invercargill) is just two hours, and the shortest (Auckland to Whangerei) is 20 minutes.

Strategically, the use of electric aircraft makes a lot of sense - New Zealand produces its own electricity but has little control over the cost or supply of aviation fuel. Sounds Air, the innovative airline based in Blenheim, has announced their intention to become the first regional airline to offer zero-emission flights. They've signed a letter of intent for the Heart



Aerospace ES-19 (left, artist's impression courtesy of heartaerospace.com) intended for commuter flights in 2026.

ElectricAir's Pipistrel has a 60-kW motor and a 21 kWh battery pack, which are dual redundant and controlled by a battery management system.

By comparison, the first generation



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Nissan Leaf has a 24-kWh battery and an 80 kW motor – weight being less of an issue in the car!

The Pipistrel Alpha Electro has a similar, if slightly better, performance to the equivalent petrol-powered Pipistrel. The controls are identical, so it will be easy for pilots to switch between the aircraft.

October 18th was the allocated day to do some air to airs of this new beauty. **Roy Waddingham** kindly flying his and **Dean Waller's** Tecnam as the camera-ship, with Gary flying the EAL Pipistrel. The pre-flight safety meeting was my first chance to have a close look at the electric Pipistrel. Like all Pipistrels, it's a very clean and pretty design – made even more so by the lack of fuel caps and exhaust, plus the snazzy graphics. The seats have adjustable lumber support and there is a ballistic parachute for extra comfort.

It was somewhat bumpy towards the west, despite being clear skies, so we headed out under an 1800' cloud base towards the east coast. It was quite dull at times (**Top photo**) but the Pipistrel caught the odd patch of sunlight over the beach (see the centrespread).

We did catch some reasonable images, but it wasn't the best of lighting. On the way back to NZRT, Roy suggested climbing up in the clear air to the west to look back over the coastal cloud. We could see that it looked stunning, so we called Gary in to join us for some more shots. It looks amazing, although it gives the impression that we were over 10/10ths cloud, it was perfectly clear directly below and to the west (well clear of the cloud and in sight of the land for less than 3,000' AMSL



and G Class air space).

We landed after around 45 minutes of flight, with Gary mentioning that he still had 48% battery remaining. As any Nissan Leaf driver will tell you, that's plenty!

A quick review of the brief videos I took reminded me why so few photos turn out super sharp – the camera is poking out the window into the slipstream by necessity and is constantly vibrating. That's my excuse and I'm sticking to it!

Next up for Electric Air was the public launching of the aircraft and company at Christchurch International Airport on October 30th. It was well attended by the media, and Gary's comments were widely reported in the New Zealand media. Lianne Dalziel, mayor of Christchurch, and other project sponsors spoke in support.

All-in-all a very feel-good and positive event. I'd like to thank **Gary Freedman** for the chance to photograph his beautiful aircraft, and **Roy Waddingham** for providing the camera plane and the remarkable skills to fly it. Let's hope we see many more electric aircraft here, soon!



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THE ORIGINS OF "MAYDAY"

BRIAN GREENWOOD

Did you ever wonder about the etymology of the "Mayday" phrase that we're all taught to use in an emergency – and all hope that we never have to?!

A little digging provides some background and an interesting answer. The early days of radio were dominated by morse code – the Titanic, for example, knocked out a few "CQD" signals, the Marconi Company predecessor to "SOS". The operators were taught to remember "CQD" by the mnemonic "Come Quickly – Danger" but in fact it was part of a series of CQ alert codes, with the "D" standing for "Distress". Prior to around 1904 the few radio operators were taught to simply send "HELP".



"SOS" had been established at an international conference in 1908 but took time to catch on – there is evidence that some of the Titanic's final transmissions in 1912 were sent prefixed "SOS SOS CQD CQD".

According to the Marconi Company history, "SOS" was chosen for its clarity - three shorts, three longs, and three shorts were easy to recognise. It didn't really stand for anything, but "Save Our Souls" or "Send Out Succour" are easy to remember.

By the time voice transmission over radio became practical, it was realised that speaking "SOS" was open to misinterpretation, given how close the "S" sound is to "F".

Just after World War One a senior radio officer at Croydon Airport by the name of Frederick Stanley Mockford was given the job of creating a standard distress phrase. At the time the International language was French, and most air traffic at the time was between London and Paris, so he felt that an anglicised version of a French phrase would suit.

He took the French pronunciation of "m'aider" ("help me!"), itself a contraction of "venez m'aider" ("come help me!") and came up with "Mayday".

Pan pan, from the French "panne" ("breakdown") was similarly adopted to



mean "Help me but slightly less urgently" (OK, technically it means "Distress but no immediate danger", but it's the radio equivalent of "my day has gone downhill really fast").

So, there you are: next time you host a trivia evening (or, worse still, send out a distress signal) you can thank me for providing some background.

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HEADSET REVIEW

PAUL GODFREY

Over the last few years, I had been getting increasingly frustrated with other aircraft's bad radios. I could not hear a lot of calls without having the volume turned right up. Next a good radio call would be made, and it would just about blow my eardrums out.

Unknown to me, my long-suffering partner, was having trouble with me hearing her... She finally got me to get my hearing tested. It was then I had an epiphany.

It wasn't that the radios weren't working; it was me that was not hearing. Louder is not better when you have poor hearing.

I decided I perhaps need to upgrade to my original headset. After a thorough search and talking to the agent Phil at SpecialFX (the NZ agents) I decided on the Lightspeed Zulu 3 ANR.

To me the main point of difference was the comfort level over their competition. They are incredibly comfortable compared to what I was using (even with gel pads)

I fly out of Rangiora, which is a very busy airfield. The enhanced safety of being able to hear clearly can't be overstated.

I've done some fairly long trips with them now. I really notice the comfort and I'm not as tired. I put this down to the quieter environment.

As I am a typical aviator, I have very deep pockets and short arms, but I consider this money well spent. I would never go back to a standard headset again.

If you are over 50 and have a noisy aircraft, you really need to try these. You won't be disappointed.



A blue t-shirt with a cartoon airplane illustration. The airplane is blue with yellow accents and the number '648' on its side. The text 'Historical Aviation Film Unit' is printed at the top in a bold, white font with a black outline. Below the airplane, the text 'New aircraft caricature t-shirts now available' is written in a similar style. At the bottom left, there is a logo for the Historical Aviation Film Unit, featuring a film reel and wings. The website address 'www.aviationfilm.com' is printed at the bottom right.



CRAC NOW HAS A VEHICLE

BUZZ HARVEY

After being discussed for several years, CRAC now has its own vehicle, a 1994 Ford Courier double cab ute. It was sourced locally for a particularly good price and has been fully serviced before going online for use. Some of the service repairs and upgrades were able to be done for an exchange of service, which is a good outcome for the club. Although it has travelled almost the distance to the moon, it does have a later 2006 petrol engine and runs very well indeed. Coming from good Ford stock is also a bonus!

SOPs for its use are still being confirmed, but in essence, it is primarily for use in support of club activities and operations, principally fuel replenishment. It is intended to also make it available to visiting aviators to fetch fuel or perhaps supplies when staying in the clubhouse. It is not meant to venture far from the local Rangiora area and is not for private or personal use by members. It has been kitted out with emergency equipment, roof beacon and a VHF transceiver (set on 120.2) for use on the airfield, as required. It is also insured, and the details are stated within the vehicle on how this will apply.

It's great to be continually developing and improving our club assets and this addition should certainly make transport tasks easier for the ongoing operations of our club.

CRAC 2021 CALENDAR

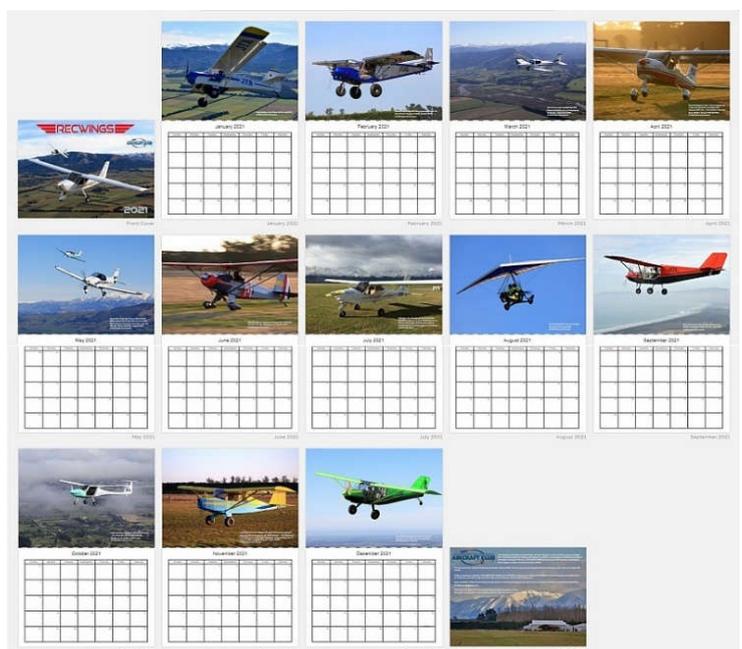
BRIAN GREENWOOD

This year Vanessa and I co-operated on the club Calendar, and we're very pleased with the result.

They're available in the club rooms now, **reduced to \$15**, the meagre profits are going to the club. If they all sell and there's still some demand, I might be able to organise another print run.

The whole thing was designed and ordered within two days without having the luxury of a proof, so it came out quite well - all things considered! There are a couple of things that we can improve on next year.

Apologies to the pilots, owners, and photographers – we simply didn't have time to ask permission!





SEASON'S GREETINGS

BRIAN GREENWOOD

It's been an interesting year! The effects of CoVid-19 have ravaged some industries and had a terrible effect on the lives of some people. Others have had some advantage from the enforced stay at home. I hope that you and your loved ones are not badly affected or can recover quickly.

New Zealand is lucky in our isolation and response in that we've had few deaths – but any is too many.

It strikes me that our response to Covid-19 as a society is much like the way we act in the Microlight community. Taking responsibility for the way we act affects the outcome for the whole community. Personally, I'm quite happy to use the Tracing App, mainly because I lead a busy life and can never remember where I have been!

In a club of nearly 300 there's always some having a difficult time in their lives, I can only hope that life improves for you all – quickly. I know of a few troubles amongst our groups of friends – please let me know if I can help.

There's less than a month to go until the big red fella breaks into houses, steals beer and biscuits, and leaves a deposit under the tree (maybe I should move to a better neighbourhood). Now is the time to prepare – especially make sure your plane, licence, and medicals are all up to date if you wish to fly over the quiet period.



This year we lost one of our own. Trevor Shadbolt was a former member who died in an aircraft accident in July. Our thoughts are with his loved ones this Christmas.



As a friendly club, we need to make sure that we look after each other, too. Even a 'hello' as people enter the clubrooms just makes people feel included.



Thanks, too, to my colleagues and the Exec on the Committee – the management team. It's been a hard old year with some difficult decisions, well done you. The amount of work that goes into running this club, collectively, must be hundreds of hours a month.



Likewise, to the Instructors and CFI, for setting good standards and sticking to them.

Take care, fly safe, and I hope that you enjoy the festive season.





AIR CADETS FLYING WEEKEND

WORDS AND PHOTOS: PILOT OFFICER JJ MICALLEF NZCF
SQUADRON AVIATION OFFICER

Friday turned out to be pretty much what one would call a Canterbury winter's day and no one could have convinced me that Saturday was going to be a better day. Looking at the weather radar for the following day things seemed to be looking up but.....

By 8am the next day, after organizing all the logistics, planning and answering the numerous questions from parents, I had a good look outside and it was evident – the weather gods were on the side of No.88 (Rangiora) Squadron, Air Training Corps.....who like to be known as 'Mighty 88'!



By 09:00am the first two flights took to the skies. Thanks to the commitment, support and dedication of the Canterbury Recreational Aircraft Club, our four instructor pilots – Glen, Scott, Dave and Colin, were kind enough to dedicate their time on the weekend and the use of two Tecnam P92 aircraft, to give 33+ Air Cadets the experience of a lifetime, and what could possibly be a first taste into their future career paths. Over the two days, we managed to log in an amazing

17+hrs of flying time.

It is very hard to precisely describe the excitement and the grins that some of the cadets came back to base with, ... whilst others were pleased that they hadn't had a big breakfast! Some have experienced thrill at being able to hold controls during their first flight whilst others were pondering 'what if there is an engine failure?'

It is the beauty of this diversity, in thoughts and experience, which give Mighty 88 its strength to overcome challenges and to keep catering for the ever growing number of cadets that attend our open days with the intention of joining the Squadron. We are particularly grateful to CRAC for not only their very generous sponsorship supporting this flying weekend, but also their ongoing support throughout the whole time we have been operating. Thank you to the President and members of CRAC. We are very lucky with the support shown

our squadron, and I would like to take the opportunity, to thank all our supporters like Pat Scotter, WDC, RSA, Rotary, individuals, various businesses in the region and the committee members and parents who work tirelessly to keep the momentum going in the Squadron.



The Air Training Corps (ATC) is a national voluntary, disciplined, uniformed youth leadership training organisation for boys and girls aged 13 to 18 years, with a focus on aviation, the outdoors, leadership and citizenship. As part of the New Zealand Cadet Forces, the ATC underpinned by the core values of **Courage, Commitment, Comradeship, and Integrity**.

Now in its 5th year of operation from the Rangiora Airfield, No.88 (Rangiora) Squadron Air Training Corps is open to all North Canterbury youth, encompassing Kaiapoi, Rangiora, Woodend, Amberley, Oxford and all surrounding localities.

With a starting age of 13-15 years, cadets parade weekly and undertake a formal training programme with key areas of learning and activity including

leadership, aviation, bushcraft, military subjects and citizenship. We currently have 48 cadets and nine NZCF officers.



In just 5 years we have become the envy of most of the other squadrons nationwide and we have come such a long way in a short time – and this has only been possible thanks to the support of our community! “THANK YOU” to all involved and wish you all the very best of the Festive Season. Happy Holidays and Stay Safe.

Pilot Officer JJ Micallef NZCF
Squadron Aviation Officer



Photos below: John Moss Photo360





Gary Freedman in the Pipistrel Alpha Electro
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MONCRIEFF AND HOOD – FIRST ACROSS THE TASMAN?

BRIAN GREENWOOD

Most Kiwi Aviators would have some knowledge of the story of the first attempt to cross the Tasman Sea by Hood and Moncrieff in 1927 – but did they make it?

John Robert Moncrieff (on the left, *above*) was born in the Shetland Islands in 1894. He emigrated to New Zealand when he was 16 and worked as a Motor Mechanic. He enlisted in 1917 and trained with the Canterbury (NZ) Aviation Company at Wigram, qualifying as a pilot after World War One ended.

George Hood (on the right, *above*) was born in 1891 in Masterton. During World War One he served with the Wellington Mounted Rifles Regiment in Egypt, and later the New Zealand Expeditionary Force in France. He transferred to the RFC in late 1916, completing his training and qualifying as a service pilot on October 13th, 1917. On the 26th of October he was seriously injured when he crashed his Airco DH5, sadly losing his right leg below the knee.

Hood returned to Royal Air Force duties in 1918 - the RAF having been formed by the merger of the Royal Flying Corps and Royal Naval Air Service on April 1st, 1918. He married his English fiancé, and they moved back to Masterton in the early 20's. He established himself selling cars, tractors, and operating a taxi business.

The third member of the team, Captain Ivan Kight (*Right, from the Evening Post, 1927*) had qualified as a pilot in 1916 and was a founding member of the New Zealand Permanent Air Force - as were Moncrieff and Hood. He was a qualified Barrister and Solicitor, practising in Masterton.

By 1925 Moncrieff was trying to raise funds to purchase a Beardmore aircraft for an attempt on the Tasman, but nothing came of the project. A couple of years later, Lindbergh conquered the North Atlantic in a single-engine Ryan, and others had crossed to Hawaii and the South Atlantic. Interest in long-distance aviation was high.

After securing limited funds from an uncle, Moncrieff enlisted the help of Kight. Further



funds were raised by local subscription, with Hood joining the fundraising campaign. Kight also did the administrative work with the Australian and New Zealand Governments.

After the Spirit of St Louis flight, it was felt the Ryan Company produced aircraft suitable for single-engine long-distance flight. A Ryan B-1 Brougham 5-seater high-wing monoplane was ordered, with modifications including a fuel tank instead of the front passenger's seat. Total fuel capacity was 900 Litres which allowed a flight time of just under 20 hours. The fuel tank precluded any chance of changing pilots, which may have influenced the outcome of the flight.



Moncrieff, Kight, and Hood sailed to Australia in December 1927 to collect the plane and organise the flight across the Tasman. The aircraft had arrived and was assembled at Point Cook, near Melbourne, making its first flight on December 29th. It was named Aotearoa and registered G-AUNZ. A small number of test flights were flown including a long distance one from Point Cook to Richmond, near Sydney, but they landed at Bong Bong. They were lost and found out that their Morse-code radio-transmitter was not transmitting at all. It was a test flight of around 700km (vs the Trans-Tasman flight of around 2335km).

The radio was overhauled, and the aircraft was flown once more and then prepared for the Trans-Tasman flight. With Moncrieff as the obvious pilot, Kight and Hood tossed a coin for the role of sole crewman. Hood won.

At 2:44 am local time on Tuesday January 10th, 1928, the aircraft departed Richmond Aerodrome near Sydney. The departure had been delayed by nearly 45 minutes because of over-filled oil smearing the windscreen, and press interviews. With an expected 14-hour flight-time the aircraft was due at Wellington's Trentham Racecourse around 7:00pm New Zealand Time. A contingency plan of landing on a nearby beach had been arranged if it was too dark by the time they reached Trentham.

The aircraft was supposed to transmit a continuous tone for five minutes every fifteen minutes, however it was actually sent out for longer periods irregularly. The last signal was transmitted at 5:22pm NZST, just over 12 hours flying time. The aircraft should have been within 320 km of the New Zealand coast.

The anxious crowd of around 10,000, which included the aviators' wives, waited in vain at Trentham and eventually dispersed. Sadly, the aircraft and crew were never seen again.

There were many reported sightings, most telling of navigation lights which the Aotearoa did not carry. The NZPAF and ships performed extensive searches around the expected approach areas with no success. Kight, who was still in Sydney, was quoted as saying "his comrades had crossed the Tasman Sea" after reports of an aircraft being seen over the Wairarapa.

Years later, one of the more credible possibilities was some metal aircraft wreckage reported by a Nelson-based hunter which he had spotted in the 1960's. The area was searched extensively in 2013 but with no success. The only other known aircraft to have been lost in that area was a civilian Tiger Moth ZK-AKD in 1946 - later believed to have been found by a trawler in Whariwharangi Bay.

There are plenty of theories about the flight. One is that the pilot simply fell asleep, with Hood unable to take over or offer any relief due to the location of the supplementary fuel tank. This was based on a suggestion that Moncrieff has been awake for 22 hours prior to taking off due to flight preparations. I'm not sure if that has been confirmed. Other ideas have them making landfall well off course and flying into terrain – all pure speculation.

Unless confirmed wreckage is located, it is unlikely that we will ever know the truth of the Moncrieff-Hood flight. These 2 men, and Kight, deserve credit and recognition for their attempt and bravery. The whole enterprise was not well planned by modern standards, or even the meticulous preparations that Lindbergh had made prior to his North Atlantic flight.

In a sad post-script, Kight himself was killed in, and blamed for, New Zealand's first scheduled air service fatal crash a mere 3 years later. Dominion Airlines had been thrust into the role of providing the only communications between Gisborne and Hastings after the devastating 1931 Napier Earthquake. Captain George Bolt had completed two flights that day, then handed over responsibility for the third to Captain Ivan Kight. The Desoutter monoplane crashed during a mail drop at Wairoa while on route, killing all three on board. Blame was laid on Kight, but a Supreme Court decision later ameliorated this to some extent with a statement that the original inquiry did not take into account the stress caused by the Earthquake and the additional flights.



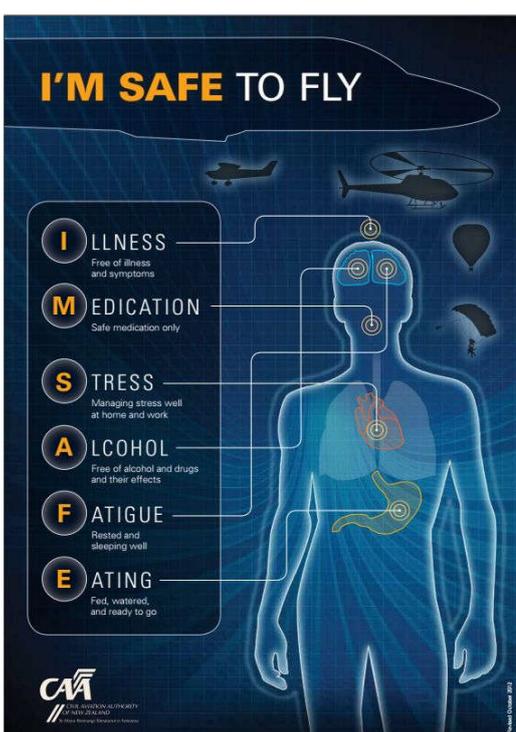
Mrs Hood and Moncrieff wait in vain at Trentham Racecourse for their husbands.

What can we learn from the first attempt on the Tasman? Events such as this have contributed to NZ's training and safety environment. New aircraft are tested extensively before being released into service. The effects of sleep deprivation, alcohol, and medications (not that there's any suggestion of the latter two having any impact on the Moncrieff-Hood flight) are known and we are taught avoidance and personal responsibility. Radios are far better, and modern equipment such as ELTs, PLBs, and GPS navigation are commonplace.

Moncrieff and Hood's legacy is not just in the number of streets named after them, or Hood Aerodrome in Masterton, but the lessons we learned from these brave pioneers even in failure.

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THE BASICS OF FIRE

STEVE MOWAT

Let me start with a brief outline of my background. I am an A grade automotive engineer. I have had 15 plus years of experience of fire rescue work with Motor Sport Rescue, covering circuit racing, drag racing, Jet Boat Sprints, Kart racing, speedway. I have attended a number of training sessions with the Airport Fire Service and researched and written about the hazards of Alcohol fuels.



Above, the fire triangle – image courtesy Gustavb/Wikipedia/Creative Commons

Basics of FIRE; There are three things required for a fire. Heat; Fuel and Oxygen (these 3 on the sides of the triangle).

If you take ONE element away from the triangle, the FIRE will collapse or go out. However, if that element is added back in then flashback/reignition can occur. i.e. another fire!

If you take TWO elements away the fire will be extinguished unless BOTH elements are available again.

Depending on the aircraft you own or are flying there are a few considerations.

ELECTRICAL FIRES; do you have circuit breakers/switches for individual circuits with which to ISOLATE the fire risk?

Does your Master switch isolate power at the battery? Damage to the battery feed prior to the master switch may mean short to earth causing a further fire risk.

FUEL SYSTEMS; Are fuel lines between your shutoff valve/s and the tanks made of plastic/rubber? Are they combustible? If such lines are unprotected in your cockpit they are liable to burn. If so, you have a RUNNING FUEL FIRE. Not an enticing prospect at altitude or speed!

OXYGEN: the nature of aircraft , means we are rushing through the air providing massive amounts of Oxygen to support a fire. It is the most unlikely element that can be removed to suppress a fire in an aircraft.

Continued...

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EXTINGUISHING AGENTS (EXTINGUISHER TYPES)

CO2

This is a vapourising liquid that disperses very quickly in open spaces; however it acts to smother OXYGEN- which we need to be able to breathe! However, it also takes away HEAT

Dry Powders (various types)

These are SMOTHERING AGENTS that also block Oxygen. While very effective, they also are very harmful to the insulation on electrical wiring.

SPECIAL NOTE: Dry Powder compacts with vibration over time. When you want to use it you may get very little powder discharged from the extinguisher. I recommend you take it out and give it a good shake, or bang it on the ground a few times each year to make sure the powder is NOT compacted. Checking the pressure on the gauge only tells you if there is sufficient propellant to discharge the powder.

Water

good on solid combustibles, no good around fuel or electrics, and of course heavy. Removes heat.

AFFF or Aqueous Film Forming Foam (FOAM)

Takes some skill to apply as a blanket over a fire, certainly not suitable in an aircraft due to this factor and weight. However, in conversion from liquid to foam it expands about 15 times. This makes it great for fuel fires on the ground.

BCF

Another vapourising liquid, and smothering agent that disperses quickly. NO LONGER AVAILABLE as 1KG depletes TONNES of OZONE!

While you carry an extinguisher in your aircraft, in case of a fire you still need to maintain control of the aircraft. Operating an extinguisher as well if required will be a big task. Brief your passenger on its location and use!

One final thing, that metal panel between engine compartment and cabin is called a firewall for a reason. If you have one ¼ inch hole in it, a fire in the engine bay due to the airflow will result in a stream of fire through that hole that very closely resembles the flame from a gas torch! Your legs will NOT withstand such a fire. I leave it to your imagination as to how well you may be able to maintain your ability to aviate.

CELEBRATING OUR SUCCESSES!

(Right) Mike Godfrey soloed in his recently purchased Karatoo, ZK-KTN on November 1st. Terry Salmon reports that there are now 4 of these aircraft



flying with the club, all built from plans (not kit built) in Mike Small's hangar.

Left, Sue Gaiger soloed on November 4th.





MOTAT IN THE 70'S AND 80'S

IMAGES: DAVE REYNOLDS

WORDS: BRIAN GREENWOOD

The Museum of Transport and Technology in Auckland is the guardian of many of New Zealand's finest aviation artefacts. These wonderful images and information were kindly contributed by photographer **Dave Reynolds**, who also scanned them in high quality.

The 1970's and 80's were difficult times for MOTAT, having established themselves and collected these fabulous and rare aircraft, they found it difficult to raise funds to build appropriate storage and display areas. I recall some very critical articles calling it the "Meola Road Rubbish Dump" and suggesting that the Lancaster and Sunderland should be gifted to the RNZAF Museum.

MOTAT persisted and today is a fabulous visit, all important aircraft are housed in appropriate buildings in which the public can view these aeronautical delights.



Above and left, looking like a scene at RAF Scampton, the ex-Aeronavale Lancaster looks magnificent in these images from 1983



Right, Seven years earlier it was in a different position (near the entrance I believe), seen here surrounded by other displays



Above, the fascinating P-47 Thunderbolt was cut up to be recovered from a New Guinea swamp. It had lain there since 1943 when USAAF 1st Lt William Carter Jr forced landed after an engine failure. This initial restoration was a patch-up job involving fibreglass, corrugated iron, steel tubing, and lots of pop rivets. It subsequently passed through a couple of owners and is currently being restored to airworthy condition in Australia.



Left, one of around 6 surviving Short Sunderlands, this former RNZAF MR.5 has been extensively restored and moved inside since this 1983 shot.

Right, the Lockheed RB-34 Lexington was basically the same as the U.S. Navy's Lockheed PV-1 Ventura but built for the U.S. Army. Both forms of the aircraft were operated by the RNZAF, and they were only known as the



'Ventura' in RNZAF service. This is the only complete ex-RNZAF survivor, although there is at least one airframe wreck (NZ4522) in New Britain. Another incredibly valuable airframe that has been saved by MOTAT.



Above left, ex TEAL Short Solent. Above right, an aircraft that has appeared in this magazine many times – P-40E NZ3009. Left, Mosquito NZ2305.



I hope you enjoyed this brief look at some of MOTAT's exquisite gems. Seeing these older images certainly highlights how lucky we are that MOTAT rescued so many, and the progress they have made in conserving them. Thanks, Dave!

All photos this section © 2020 David Reynolds



WINGNUT WINGS 1:32 ALBATROS D.VA BRIAN GREENWOOD



The Albatros “D” series of fighters were the backbone of the Luftstreitkräfte from the mid period of World War One. The D.I first appeared in the war-torn skies of France in August 1916, and was quickly supplanted by the improved D.II. The changes were mainly removing the fuselage mounted radiators to a more streamlined type mounted in the wing and reducing the height of the top wing to improve pilot visibility. The Albatros was not particularly manoeuvrable but it was fast(ish), strong, and well-armed with two synchronised machine guns.

The Albatros types acquitted themselves well while the RFC and Armée de l’Air had little to counter it. However, it lagged behind as more advanced Allied types such as the superbly manoeuvrable Sopwith Triplane and Nieuport series increased in numbers.

German pilots were impressed by both of these machines and designers tried to emulate them. One eventual result was the Fokker Triplane, another was a modified Albatros, the D.III. This version was a “Sesquiplane” like the Nieuports. A Sesquiplane is biplane with one wing being substantially smaller than the other – usually the lower wing is smaller to improve downward visibility. Unfortunately, by copying the Nieuport, the German designers also copied one of its major faults – the single spar lower wing was prone to failure. This was caused by aerodynamic loads flexing the wing although it was initially blamed on build quality.

Manfred von Richthofen was one of the lucky pilots, surviving a partial lower wing failure. The D.III was temporarily withdrawn from service for strengthening, squadrons using D.II’s and Halberstadt D.II’s in the meantime. Even when re-introduced, the design flaw was never really resolved - pilots were advised not to perform steep or prolonged dives.

The D.III was replaced by the D.V which retained the D.III’s flawed wings and had a new, lighter, fuselage with an elliptical cross-section. The D.V was a great looking aircraft but still suffered the same issue, and was very unpopular with pilots. Manfred von Richthofen said that the D.V was “so obsolete and so ridiculously inferior to the English that one can’t do anything with this aircraft”. It was heavy on the controls and relatively unmanoeuvrable.

A modified version, the D.Va, was produced from August 1917. It had a reinforced wing and fuselage, re-routed aileron cables, additional bracing struts, and a 180HP Daimler-Mercedes engine to offset the extra weight. This version served until the end of the war with over 400 still in service by then. The fact that the issues weren’t entirely cured highlights the problems with other fighters (Fokker Triplane, Pfalz D.III) during this period. It wasn’t until the Fokker D.VII entered service in May 1918 that the Luftstreitkräfte had a truly superb fighter.

The Wingnut Wings Albatros D.V and D.Va kits were introduced in March 2010 and were sold out by February 2015. Fortunately, they reintroduced some variants of the kit with special markings (including a triple kit of Jasta 5 “Green Tails” with 11 marking options!) at various times to allow those who missed out to catch up. The kit comprises 150 high-quality plastic parts, a sheet of etched parts, 5 marking options, and a fantastic instruction and reference book. The box-cover painting is another gem by American artist Steve Anderson.



Construction begins, as with most kits, in the cockpit. The plywood fuselage has a lot of woodgrain to emulate so I used a variation on the technique shown on the Wingnut Wings website. The variation was using a 20:1 mix of Tamiya XF57 Buff and X-2 Gloss white for the base coat, and Windsor & Newton Yellow Ochre Oil Colour (with some dashes of W&N Burnt Sienna for variety) for the wood effects. The colour and direction of “grain” was varied between each panel. This combination produces a lighter grain than the XF-59 Desert Yellow and Burnt Umber Oil paint that Wingnut Wings used in their example of wood effects.

The engine is another work of art, missing only some minor plumbing and ignition details. I made what I laughingly call spark plugs from 0.5mm brass wire, with the tips painted white to represent the porcelain insulation. Ignition leads were from very fine wire cut out of some old low voltage automotive wires I had. For the first time I tried to represent the ignition leads coming out of the magnetos which worked out OK.

After painting the wings in the recommended colours (I have no idea what German WW1 Mauve should look like!) I read a forum post about some wings being slightly warped. Mine were, so I threw them under very hot water and straightened them out. This affected the paint and the Johnson’s Klear floor polish which I use for gloss varnish. Luckily, another coat of this miraculous stuff fixed it!



The machine guns were assembled from the etched brass and all of the kit components were sprayed with Vallejo varnish – semi gloss for the fuselage and matt for the wings (not that there’s much difference).

A couple of firsts with this kit – I used Gaspach brand 1/48 turnbuckles (the 1/32 seemed to big) to replicate the distinctive Albatros rigging, and a “Proper Plane” hand-carved laminated wooden propeller imported from the Ukraine. I struggled with the turnbuckles with my elderly eyesight and slightly-less-than-optimal dexterity and am not 100% happy with the result. However, I did learn enough to be more confident next time.



Assembly was straight forward but I used a technique mentioned on one of the forums – glue the cabane struts to the fuselage, then invert it and glue the top wing. Dry assemble the lower wings and interplane struts, align them all (very carefully) and then hit the joints with liquid cement. It worked an absolute treat – there’s nothing worse than an Albatros with wobbly wings!

The Albatros series were flown in a huge array of colour schemes, some of them are very beautiful. I'm keen to do the D.Va scheme on the TVAL replica that Kermit Weeks flew at Classic Fighters Omaka 2011. I'm pretty sure the original aircraft was a D.V version.

This build took me from early lock down (April) through to early November to complete. Every second was a pleasure. No wonder Wingnut Wings, now out of production, go for a fortune on the second-hand market.

Fabulous kit – you'll be lucky to find one under around \$300 now.



Above, The Vintage Aviator Limited's replica D.Va at Classic Fighters Omaka 2011

Below, clockwise from top left -, Albatros D.I

Albatros D.V 1162/17 in captured RFC markings

Manfred von Richthofen's D.V

Kermit Weeks displays TVAL's replica at Classic Fighters Omaka 2011 – he subsequently purchased this aircraft

*B&W images – Wikipedia/Public Domain
Colour – © 2020 Brian Greenwood*



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COMMITTEE NOTES OCTOBER-NOVEMBER 2020

- Wi-Fi signal in hangar one fixed
- Sep Flying hours: RGA 15, RGB 26, RGC 36
- New Engine for RGB arrived and fitted
- Gearbox repaired for RGA refitted, not up to standard so removed again.
- Emergency response procedure review underway
- Doug Anderson donated lawnmower
- Fire extinguishers in hangars relocated
- McKeowns in Kaiapoi confirmed as only fuel supplier
- Proposal for \$1000 flying scholarship for High Schools in 2021.
- Dan Batchelor donating pavers to the club
- Doug Anderson offered \$500 for club trailer – accepted
- Club Ute examined and approved
- AOPA map books installed in each club aircraft as a back up
- \$150 donated to Okarito Airstrip for windsock
- ATC Camp 28+29 November, club A/c involved
- Airfield Advisory Committee want to install expensive security cameras around airfield
- Bolly props ordered November
- Landscaping plan for pavers discussed and approved
- “Introduction to CRAC and Flying” booklet that used to be sold to new members under consideration for updating and re-issue
- 2 new headsets being purchased
- Club Open Day scheduled for March still under discussion
- Good expired engine listed on TM, other including “dud” gearbox kept for spares
- Scott James representing club on the Airfield Advisory Committee and presenting proposal on Landing fees. Also confirmed as our RAANZ rep.
- A good discussion on a proposal to formalise AGMs, allow proxy voting, require paper-based ballots, and allow remote participation. Paper ballots are allowed with 2 members requesting it. Proxy voting rejected and remote participation possibly being trialled.

THE 2021 INTERNATIONAL

HEALTHY BASTARDS

• BUSH PILOT CHAMPS •

SATURDAY 6 FEBRUARY
OMAKA AERODROME

ALL PARTICIPANTS MUST REGISTER AT
WWW.MARLBOROUGHAEROCUB.CO.NZ
BY FRIDAY 29 JANUARY 2021

Logos at the bottom: sounds, BELLE FLYING DOCTOR SERVICE NEW ZEALAND, HB, CAMS, Waypoints AVIATION



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Rangiora 7440

www.crac.co.nz

WHATSAPP

CRAC Drop Of The Hat
CRAC Revolution (for chat)

FACEBOOK

www.facebook.com/flyCRAC



Interested in joining us?

E-mail secretary@crac.co.nz or use
the online application form.

We can send you an information pack
which includes membership details,
costs, and joining forms. Membership
enrols you for the magazine, too.

UPCOMING EVENTS

5-6th December – Flying Scotsman Fly-in,
Rangitata Island

6th December – CRAC Christmas Party, 5 Stags,
Rangiora. **RSVPs closed**

6th February 2021 – Healthy Bastards Bush Pilots
STOL Championships, Omaka (Registration closes
29th January 2021)

2nd April – 4th April 2021 – Yealands Classic
Fighters Omaka

Keep your eye out for weekly club e-mails,
join the **CRAC Drop Of The Hat** WhatsApp
group for informal group fly-aways. Join
CRAC Revolutionary for general chat and
good humour.

CONTRIBUTIONS AND ATTRIBUTIONS

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RecWings logo by Eric Lim.

Printing kindly sponsored by:
Archibalds Motors Limited

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(editor@crac.co.nz)

*Disclaimer: This Magazine is prepared by
dedicated enthusiasts; the opinions expressed
herein are not to be taken as official club policy
unless approved by the committee.*

NEW MEMBERS

Welcome aboard to:

Dave Mainwaring

David Avery

Zane Lee

Charles Milne

Matthew Clark

Brent Robertson

Siew Yee Chen

Michael Smail

Hamish Brice

Graham Compton

Please make our new friends feel
welcome.

CONGRATULATIONS

Bryn Atkin, Flight Instructor

Colin McDonald, Snr Flt Instructor

Benjamin Dodd, Snr Flt Instructor

Montgomery Batchelor, Adv Local

Stephen Walker, Intermediate

Hamish Brice, Snr Flt Instructor

NEXT NEWSLETTER

**Contributions for the next edition
are requested, publishing deadline
January 14th, 2021.**

**Next publishing date approx. January
28th, 2021.**