

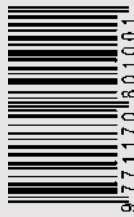
# KiwiFlyer™

Magazine of the New Zealand Aviation Community

Issue 67 2020 #1



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## From the Editor

Welcome to the first issue of KiwiFlyer for 2020. Wisely keeping the resolutions brief for this year and therefore surely achievable, I've simply resolved to fly more. That plan got off to a good start at our NZ Autogyro Association's annual gathering at Dannevirke where I reactivated my microlight licence and had a great time playing in the sky and enjoying the company of like-minded others on the ground. Here's to recreational aviation in New Zealand. Long may it remain as relatively unencumbered by complexity and cost, as it currently is. That of course is a balancing act, and sometimes a battle – and worthy therefore of a plug to support the various organisations that exist within NZ aviation who work hard to challenge both the status quo and new proposals and to protect the freedoms we currently enjoy.

In our last issue, we mentioned that the Ardmore based P-40 Kittyhawk would be firing its guns (blanks of course) during Warbirds Over Wanaka at Easter. That prompted some correspondence from Bryan Cox, who recently turned 95 years of age and who flew Kittyhawks and Corsairs during WWII - firing many live rounds in the process. Bryan sent notes, photographs, and some great anecdotes of this time – all of which we have assembled into a very interesting article. Generations later, some of these stories and especially the physical aircraft involved have a palpable air of greatness, or perhaps romance about them. Most onlookers of these warbird aircraft nowadays have thoughts such as 'wow that's so cool', etc. After all that's what draws the public to air shows. But Bryan sent something else from his extensive collection too. There were two lists of 'statistics'. One was an RNZAF P-40 Fighter Pilot Claims list of 99 confirmed and 14 probable. The other was a list of RNZAF P-40 pilots killed in WWII. There are 66 names on that list, a sobering reminder of what these aircraft were built for, and of how brave the men were who flew them.

This issue is full of other correspondence too, in the form of articles received from aviation enthusiasts who are not on our regular contributors list. Bruce Drake writes of rescuing a Super Cub from Italy and converting it to a Tiger Cub at home in Fernside. Eric Driver tells the story of a Nieuport project, Ben Girven writes about this year's Walsh Memorial Scout Flying School, Andy Love covers the recent South Island Akro Fest, and John Baynes shares some considered advice for summer aviators. Thank you all for your contributions.

Happy reading and safe aviating.

**Michael Norton**  
Editor | Publisher  
KiwiFlyer Magazine



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Bruce Drake at the controls of Tiger Cub ZK-CUF photographed by Geoff Soper



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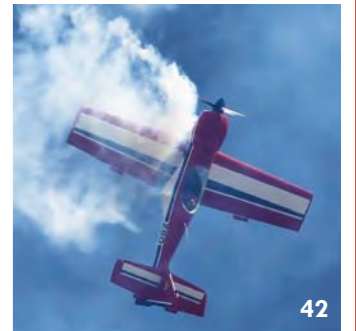
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## About Us

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KiwiFlyer is proud to support Walsh Memorial Scout Flying School, YouthGlide, and Flying NZ Young Eagles.

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### Spider X Launched

Spidertracks has announced the launch of the Spider X – their next-generation Spider hardware.

It wasn't much more than a decade ago when aircraft tracking was feasible only for the top tier of the industry and achieved by integrating complex electronics into aircraft systems. Today aircraft tracking has industry-wide adoption and NZ based Spidertracks is a leading international provider of the technology which has greatly enhanced safety throughout the general aviation sector.

Spidertracks utilise a dedicated Iridium channel for all mission-critical data without reliance on cellular availability. Building on their existing adaptive sampling algorithms which provide near real-time flight path and aircraft movement information, Spider X now includes an additional attitude and heading reference system. AHRS data is transmitted over the air, allowing easy access to information about the aircraft's orientation and position. Spider X is also packed with integration platform tech such as WiFi, cellular, Bluetooth, USB-C, and serial port interface capability.

"I am really proud of what the team has delivered with the SpiderX. The look, feel, and design concepts reflect 13 years of aviation DNA and learnings, and future-proofs our customers to meet their ever-evolving requirements," says Dave Blackwell, CEO of Spidertracks.

More information at [spidertracks.com](http://spidertracks.com)

### New Paperless Aviation Software

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For more information email Jon at: [sales@datahangar.co.nz](mailto:sales@datahangar.co.nz) or visit [www.datahangar.co.nz](http://www.datahangar.co.nz)

### Warbirds on Parade Sunday March 15<sup>th</sup> at Ardmore

On Sunday March 15 the NZ Warbirds Association will hold a 'Warbirds on Parade' Open Day at Ardmore. This year the association has brought the (usually June) date forward to take advantage of better weather and longer daylight hours. Planning is well underway and will follow the established pattern of three flying slots which enables other operators at the airfield to continue flying. As well as the extensive warbird collection already domiciled at Ardmore, the event will include a number of 'imports'. Already confirmed are Brendon Deere's Grumman Avenger which will head north from Ohakea for the day, and Graeme Frew's Omaka-based Reno Air Race winning Yak 3 known as Full Noise.

The Avenger was designed as a carrier based torpedo bomber for the United States Navy, and was to become one of the outstanding torpedo bombers of WWII. Flying off aircraft carriers the Avenger is characterised by her STO-Wing 'compound angle' wing folding mechanism to maximise what available storage there was on aircraft carriers. Our own RNZAF operated 48 Grumman Avengers, mostly from Bougainville during the Pacific War. They operated as bombers with 30 and 31 Squadron against Japanese targets alongside other RNZAF



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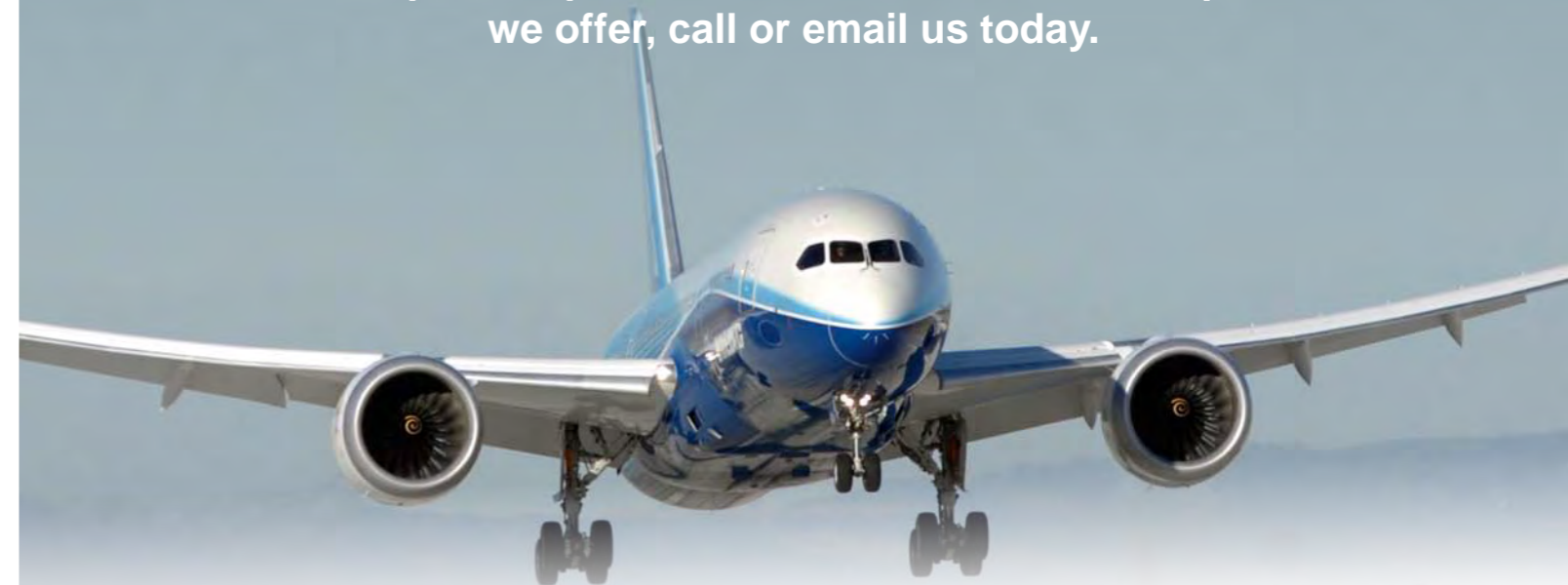


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units. After the war a few Avengers were based at Ohakea with 42 Squadron as target tugs and operated through to 1959. They were also used in top dressing trials.

Graeme Frew and Full Noise are Reno Air race veterans having completed two trips to the Nevada race with plans to go again this coming September. They fly the eight-mile course, sometimes just 15 to 30 metres above the ground at speeds upward of 550 km/h alongside six or seven other aircraft all competing for the win.

As an adjunct to the Open Day, the association is also holding a 'Rides Day' on Saturday the 14th. At time of writing, the Yak 3, P-51 Mustang, P-40 Kittyhawk, Harvards (in formation) and Airtourer will all be available for a limited number of flights. For more info and show tickets visit [www.iticket.co.nz/events/2020/mar/warbirds-on-parade](http://www.iticket.co.nz/events/2020/mar/warbirds-on-parade)

For enquiries about Adventure Flights on Rides Day 14th March, email: [flights@nzwarbirds.org.nz](mailto:flights@nzwarbirds.org.nz)

#### Warbirds Over Wanaka Updates

New Zealanders will have their first chance to check out the RNZAF's new transport aircraft when the United States Air Force brings a C-130J-30 Super

Hercules to this Easter's Warbirds Over Wanaka International Airshow.

The aircraft coming to Wanaka is operated by the USAF 374th Airlift Wing based at Yokota Air Base, in Japan. The aircraft will be on static display throughout the three-day Wanaka airshow giving visitors the opportunity to check out the interior and talk with the crew.

From the outside the C-130J doesn't look too different from the C-130H currently operated by the RNZAF – the big differences are mainly technological with new engines, flight deck and other onboard systems.

Lockheed Martin's Hercules family has the longest continuous production run of any military aircraft in history. The C-130J is the only Hercules model still in production with more than 400 having already been built. The Super Hercules is the second aircraft to be confirmed by the United States Air Force for the Airshow joining the massive C-17 Globemaster transport aircraft out of Hawaii.

These aircraft, along with a four-ship F/A-18 Hornet Fighter jet display from the RAAF and a large turnout of RNZAF aircraft should ensure one of the biggest modern military displays ever at the world-

famous Wanaka event.

In other Wanaka news, the Warbirds Over Wanaka Warhorse Re-enactor group is paying tribute to the role of field guns in WWII with a 'barrage' from several 25-pounders and other armaments planned for the show. This is thought to be the largest gathering, and mass firing, of field guns in the Southern Hemisphere for many decades at least.

One or two 25-pounders have been a regular sight at Warbirds Over Wanaka for many years, primarily as part of the Warhorse static display. Since 2014 at least one of the guns has been fired across Lake Wanaka to start the community lakeside aerial display on Good Friday.

For the past two years the Re-enactor group has been trying to secure as many working field guns as possible for this Easter's special display. It's hoped they will have at least five 25-pounders along with a number of 6-pounders backing them up.

The display will involve the guns being rolled out to form a battle line down the crowd line. The command will be given and the guns will be fired one after the other, reloaded and fired again and again giving airshow visitors a glimpse into

what it would have been like for the allied forces engaged in such famous battles as El Alamein and Monte Casino.

Re-enactor group spokesman, Darryl Brewer, says the 'barrage' has been a while in the planning and it will be quite a logistical exercise getting all the guns in position as quickly as possible and firing. "The guns will fire one after the other to start with but then they'll just fire again as soon as they're ready so it will then just be a big wall of noise, just like it was during the big battles of WWII," says Darryl.

The 25-pounder was the major allied field gun during the Second World War. At El Alamein for example there were some 800 of the guns deployed. The 25-pounder was introduced just before the war started and was used by armed forces throughout the Commonwealth, including the New Zealand Army, for many decades afterwards.

#### Wings over the Outback

An escorted tour across the Australian Outback aboard a Pilatus PC12 is being promoted by Melanie Salisbury of Aviation Tours NZ. At time of print, just two places are left on the trip which will visit some of the most remote aviation

locations in the country. Participants will see how the pioneers of the outback survived and how current farmers are coping with drought conditions, plus explore unique geological sites including fossil fields and the Flinders Ranges. The trip also includes stops at the Temora Aviation centre, Wings over Illawarra air show, Pays Warbird Restorations, Ross Smith's private aircraft collection, Stockman's Hall of Fame, Qantas Founder's Museum Longreach, outback stations and airstrips, and more. [www.aviationtoursnz.com](http://www.aviationtoursnz.com) for more info.

#### FREE Warbirds Over Wanaka tickets

KiwiFlyer has a few entry tickets for the Warbirds Over Wanaka International Air Show over Easter weekend April 10<sup>th</sup> to 12<sup>th</sup> to give away to readers. All you have to do is tell us that you would like to go. We'll put all entries received into a draw on March 16<sup>th</sup>. If you're definitely able to travel there and would like the chance of getting in for free then send an email to: [michael@kiwiflyer.co.nz](mailto:michael@kiwiflyer.co.nz)

Please indicate your preference of day and ticket types (adult / child). Winners will be notified by March 20<sup>th</sup>. Good luck!

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Master Craftsman Bruce Drake

# A Tiger's Tale

The rescue of an Italian Super Cub and its conversion to a Tiger Cub in Fernside

Geoff Soper image

A work of art takes to the sky between Rangiora and Fernside

“Would you like to come out and take a few photos of a little project I'm working on?,” said Bruce Drake to Geoff Soper back in May of 2019. That sounded interesting and of course Geoff obliged. Then late last year, Bruce's little project took to the air. Geoff picks up the story:

**At** Bruce's invitation, I drove out to his Fernside home and hangar near Rangiora where he lives with his ever so patient wife Rae. Those of you who know Bruce

might say he is a man of few words, usually short ones, but I could tell before he showed me his new pride and joy that this was going to be something special. The smell of freshly doped Ceconite (or was it blood, sweat and tears?) greeted me from the hangar before I had even sighted the glowing orange and white finish of the Tiger Cub that Bruce had worked on over the last two years.

We rolled her out into the late autumn sunshine and I began the process of documenting what was clearly, not only

fine workmanship, but also a labour of love. Bruce was not just showing me his aircraft, but here was his fifty plus years of aircraft engineering knowledge and commitment to detail on display.

Bruce began his craft as an apprentice engineer with Airwork NZ in 1963. Back in those days that included a five year (10,000 hour) bond. The work was mostly ag related; assembling, repairing and overhauling Cubs and Pawnees. He then worked on Dominees, Widgeons and Cessnas at Tourist Air Travel. Bruce

described it as 'wheels, floats and skis'. Skills he learnt there would come in handy during an out-landing where the worth of gear leg safety cables became apparent, as well as the skill of gliding club members at catching Cub wings on landing - however that is another story. 1971 saw a short return to Airwork and then on to the Canterbury Aero Club. In 1973 Bruce succumbed to his adventurous side. He had a memorable time flying helicopters for Whirlwind Helicopters on venison recovery which ended when he

was medi-vacc'd out with appendicitis. A short time of engineering work for CWF Hamilton was then followed by time at NAC working in the sheetmetal section, mostly on Viscounts, Friendships and Boeing 737s.

August 1976 saw Bruce establish Drake Aviation based at Christchurch Airport which eventually moved out to Fernside in 1991. In recording this, I asked Bruce whether he was actually retired. “Tired, not retired,” says Bruce with a grin. Here's the story of ZK-CUF in Bruce's words:

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A sad looking Super Cub back on its feet after a nose over.



Trailer being packed for the 1400km drive across Europe.



The Morane and Super Cub fitted easily into a 40' container.



Only a fraction of the 47 gallon tins of dope and thinners used.

**Here's your next project!**

In April 2017 Rae & I visited Europe to catch up with our son, Ross, and his wife, visit friends and attend the annual Aero Friedrichshafen show. Two days before we were due to return home Ross sent me a link with the comment, "Dad, here's your next project." The advert said, "condition rough!" It was a 1980 Piper Super Cub which had tipped over during an outlanding and suffered some damage. In my years of fixing Piper Cubs, I had fixed a lot worse than this, so I thought it was worth the trip from Austria to Rome to look at it. Unfortunately this could not be arranged in the time available.

After having done a fair amount of research on the project with the owner Massimo, in June I went back to see Ross and we drove the 800 km to an airstrip near Rome. We met Massimo and looked at the aircraft, a PA18-150, I-BALP, serial number 18-8009044. It had been dismantled to return it to the airfield where it had sat in storage for two years. Unfortunately, significant additional damage had been done during the recovery exercise. The wings had obviously been transported vertically on the trailer with not enough packing between them and the fuselage. Serious damage had been done to the metal flap skins on both flaps. The struts which had been put over the wingtip bows just outboard of the ailerons, had both been tightened so much that both the bows were broken plus there was damage to both the end ribs and braces. I was ready to walk away from it.

However, with some serious arm wrestling, a deal was done. Massimo flies A320s on contract in Poland and he promised that on his next trip back to Italy he would lodge the necessary documents with the Italian CAA for cancellation off their register. I then discovered that Italian law requires 60 days notification prior to cancellation of an aircraft off the register, so we could not pack it and ship it at this time. I returned home.

Massimo was not aware, nor were we, that the sales contract Ross had pre-prepared minus the value, had to be written in Italian and both our signatures witnessed by the police. Antonella, the Italian Registrar, advised us of this and said that under Italian law the aircraft could not, and would not, be cancelled off the register until this was complied with. She was however prepared to go ahead with the notification process so the 60 day period could start counting down. Of all the aeroplanes and gliders I have bought overseas before, I've never had this problem. If we had all done our homework a bit better, we would have discovered this requirement because it is clearly spelled out in the Italian system, both in Italian and in English!

**Thanks Julia**

I thought about it for a day or two then rang Julia Reed, our Registrar at CAA. We have never met but Julia has helped me on many occasions and always given me good advice. I explained the situation and she told me to send the sales contract as there were two Italians working in the building and she was sure that they would help. I duly sent it off. It was translated into Italian and returned to me, then I visited the Rangiora Police Station where my signature was signed and witnessed. I airtailed the original as requested to Massimo and he did his part. Antonella was happy. Relief all round. Thank you Julia, you are a credit to the CAA.

My intention was to make it a long term rebuild project with the idea of installing a 180 hp Lycoming engine. I had done three of these before in the late 1970s, including one for myself. A short time later, Ross discovered a Morane, D-EETI, with the right model Lycoming 0-360-A3A 180 hp in it along with a propeller

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Starboard wing partially re-covered.



The first fit of the O-360 180 hp engine.



Dressing the fuselage. The re-covering process begins.



Half way there! The fuselage is nearly done.



Unmasking the art work (artwork?).



First fit of the new instrument panel.

to suit the Supplementary Type Certificate. The engine had done 110 hours since overhaul and 110 hours on a new prop. After due diligence, this aircraft was purchased as well.

The first week in August I flew into Frankfurt and caught the train to Kassel which is to the northeast of Frankfurt, where I have some very good friends. They loaned me a car and an 11 metre long open trailer and I drove 650 km to Ross in Austria. The next morning with everything we felt was needed, (tools, packing equipment, a floor crane to lift the engine onto the trailer) we headed off on the 800 km journey to Rome. The trailer pack took longer than we expected, about six hours - and on a typical summer Italian day of 40+ degrees. We were both utterly exhausted.

Over the next two days we travelled 1400 km. First it was back to Kassel to unload the Cub into our friend's workshop. We then headed to the local airfield, dismantled the Morane and delivered it to the workshop. Ross and I drove back to Austria where I helped him for the rest of the week. We returned the following weekend, cleaned everything and pre-packed as much as we could.

Previously, to order a container in Europe all I have done is send an email to DHL in Hamburg advising them of size, when and where, and it turns up. The paperwork is normally fairly simple. The only critical thing needed is a commercial invoice on company letterhead with a VAT (GST) number, a description of the goods and the value. I had purchased both of these aircraft privately - not from a company, corporate body or gliding/aero club - with no commercial invoice. This was a major problem as I had two aircraft in a dismantled condition spread round my friend's workshop and the company was due back to work on Monday morning after summer holidays. My stuff had to go.

I discussed it with my friends who suggested they could produce me a pro forma invoice on their company letterhead if that would help. I asked DHL to check with their Customs team and they were happy to accept this. Another obstacle was overcome.

In Europe they do not have swing-lift container trucks so you have to pack the container on the trailer. You are allowed two hours for this and then it's 80 Euros per hour for the truck driver's time. We were never going to pack this container in two hours so DHL offered to drop off the container and trailer at 8am on Monday, and pick it up no later than 4pm on Wednesday for an additional charge of 300 Euros. This gave us ample packing time as well as time to sort the commercial invoice issue. Fortunately, our friends had a forklift and we spent the whole day packing the Cub and Morane into the 40 foot container.

**Completing the project**

In late October the container arrived here. Fortunately everything had travelled safely. Between October 2017 and May 2019 when ZK-CUF was issued with a New Zealand Certificate of Airworthiness, I spent about 1000 hours and a bucketload of cash doing a complete repair, rebuild and re-cover.

STCs were incorporated as follows:

- Tiger Cub 180hp engine conversion
- 3" extended Alaskan gear legs - to accommodate the 76" prop
- 31" Alaskan bush wheels
- Alaskan bush tail wheel
- Dakota Cub booster brakes
- Atlee Dodge safety cables
- Aero Dynamic vortex generators
- Aero fabricated safety harness kit, front and rear
- Wipaire wing spar mod allowing all up weight to 2000 lbs
- Airglas cargo pod

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All pristine and awaiting an inspection/blessing from the CAA.

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On Friday the 14th of August we rolled her out of the Fernside hangar and got her airborne with Ross Sparks as P2. What a delight to fly! I was able to take my feet off the rudder pedals in the climb, the ball stayed in the middle, and the aircraft continued straight ahead. With hands off the stick the aircraft remained straight and level, the stick stayed in the middle and the flaps and ailerons lined up. There were no issues with stalling and no rigging adjustments required. The test flight helped identify two minor issues. The oil temperature was slow to rise, but nothing that re-bleeding the lines wouldn't fix, and the stall warning came on far too early, again a simple tweak.

The project was complete! Special thanks to my good friends in Germany who provided food, accommodation, car, trailer, workshop facilities and more; to the gliding club in Edermunde/Grifte for the use of their airfield to land the Morane and hanger facilities to dismantle it; and very special thanks to my son, Ross, for his support and many hours of time, provision of transport, food, accommodation and more, ably assisted by his wife Bettina. Without all of this support it would have been mission impossible!

Bruce Drake

Footnote: Bruce's collection now consists of a Cessna 182, two Dynamics and the Tiger Cub. I get the feeling there is plenty of engineering left in Bruce and the collection isn't complete yet, although he may think twice before opening the next email from Ross that has the word 'project' in it. Is this the last project? Rae isn't taking bets.

Geoff Soper 



A very handsome Tiger Cub after its stunning makeover.

Geoff Soper image

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# AirVenture Oshkosh

## Gaye Parady Travel Tour departs 17<sup>th</sup> July



2020 will be the 51st consecutive year of the annual EAA AirVenture fly-in convention at Oshkosh. This event really is the biggest aviation gathering on the planet and should be on every aviation enthusiast's must-do list. Typically about 2500 show aircraft participate including homebuilts, antiques, classics, warbirds, microlights, rotorcraft and amphibians. Exhibit buildings contain just about everything there is to see or purchase in aviation, with over 800 participating exhibitors. During the day and through the whole week over 500 forums and hands-on workshops are conducted by aviation leaders, designers and craftsmen.

Many unique aircraft are displayed in daily air shows, from early racers to historical airplanes and newly developed craft. The air show also features many of the world's outstanding aerobatic performers. Features this year include U.S. Air Force Special Operations, the Canadian Snowbirds, and so much more. There's plenty of aviation entertainment and seminars (and another air show) in the evenings too.

A highlight of this year will be expanded warbird activity as the EAA commemorates the 75<sup>th</sup> anniversary of the end of WWII.

Ensure you have a great trip by travelling in a group with Gaye Parady Travel

New Zealand's most experienced EAA Airventure Oshkosh Tour Organiser, Gaye Parady, is this year arranging her 34th AirVenture tour. Given the extraordinary scale of the event, there are obvious benefits in making the trip as part of an organised group. And this is a properly escorted trip – you're not just buying tickets in New Zealand and then being sent on your way. Aside from having all logistics and advice taken care of, there are also several pre and post-Oshkosh events/visits to enjoy, not to mention the fun of being surrounded by like-minded Kiwi aviation enthusiasts while you're away.

The 2020 Gaye Parady Travel tour will depart by Air NZ 787 Dreamliner on 17th July bound for Chicago, with no messy connecting flights required and arriving early evening at our hotel. In the morning we'll set off by coach and stop on the way for a real American breakfast experience. Onwards to Milwaukee we'll visit the Harley Davidson Museum, and then make our way on to Oshkosh. After settling into our air conditioned accommodation for the next 8 nights, we'll take a bus ride to show us a little of the Oshkosh area and procure any supplies you need.

The next day (Sunday) is a sightseeing day. We'll visit the National Railroad Museum and another that showcases a workshop of Zachow and Besserdich, the inventors of the first successful four wheel drive cars and trucks. Then onto the 'Machine Shop', 'History House', and other locations that give a glimpse into the early life and times of residents.

On Monday AirVenture begins. Everyone has bus passes for the week and your guide will help with tickets if required, maps, and getting your bearings, whereupon everyone sets off to pursue their own interests. We've been there many times before and ensured a great week for many hundreds of Kiwi aviation enthusiasts, so can provide plenty of advice and recommendations if you need.

On Thursday we have various local things to see and do and if you need a break from aviation then on Friday it's time to show our flag at AirVenture's 'International Day'. On Sunday we head back to Chicago. If you're heading home then costs for share twin to this point are NZ\$4299 plus airline taxes, including day tour and entrances, bus pass, coach travel, tour shirt & backpack, tour escort, airfares, one night Chicago, eight nights Oshkosh and lots and lots of fun!

Or join our extension tour and fly to Tucson Arizona where we will transfer to accommodation for four more nights and an itinerary full of must see attractions. Please contact us for more information on our plans for 2020.

Our trip concludes at this point but as travel agents and not just tour operators we can plan and book many other onward options of your choosing - Alaska, Rocky Mountains, cruises, stopovers in Hawaii, or onward travel to Europe, just to name a few. **We really look forward to putting a fantastic trip together for you!**

All details are available on our Oshkosh page at [www.gayeparady.co.nz](http://www.gayeparady.co.nz) or call Gaye on 07 574 1950, 027 493 9073, or email: [travel@gayeparady.co.nz](mailto:travel@gayeparady.co.nz) for more information and a full itinerary.



There's more to see and do at AirVenture Oshkosh than you might possibly imagine.

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# Are you insuring at correct value?

It's always best to insure aircraft for true market value as there are significant pitfalls for the unwary who opt to deliberately under or over-insure their assets. You could inadvertently end up with a low value write-off instead of repair, or a time-consuming rebuild instead of a write-off. Bill Beard from Avsure explains the insurer's decision process:

**Aircraft** owners should be aware that there are disadvantages in both understating and overstating aircraft values. Generally, aviation policies are written on the basis of "agreed values" but you should check your policy on this point. In the case of an "agreed value" policy the amount of hull coverage you purchase is agreed and accepted by the underwriters at the time of taking out the insurance and that is the amount you will receive (less the deductible) in the case of a total loss.

Be alert that under an aircraft policy, the insurance company at their option may pay for, (possibly replace) or repair accident damage. If you are light on value, the insurers have the option to pay out the total sum insured, less the deductible, and take possession of the aircraft (wreckage) which they can then put up for tender and sell off. As opposed to this, if you over-insure and you have a major accident, the insurers may decide to enter into a long, expensive rebuild and you could lose the use of your aircraft (and the income!) for months. The best idea is to insure your aircraft for its true market value so that in the case of a total or constructive total loss, the sum insured will adequately enable you to replace the aircraft with a similar model in like condition.

Operators of high valued aircraft and helicopters may wish to consider insuring in US dollars. The downside is that some underwriters require that the premium must be paid in US dollars and

that US dollar premium financing is not available. The reason we highlight this is that the USA is still the main source of used aircraft and the price of replacement aircraft will be affected by any fluctuations of the NZ\$ conversion against the US\$.

It could also be a good time to review the Third Party Liability Indemnity you are insured for. The absolute minimum should be NZ\$1m however in recent years a more appropriate indemnity would be NZ\$2m which has become the industry standard but even this won't go far if you taxi into an expensive helicopter or pressurised twin. If you are operating regularly on and around busy airports frequented by high value aircraft or helicopters it would be best if you considered a higher indemnity.

To discuss any questions relating to aviation insurance or to seek quotations, contact Arden Jennings or Bill Beard at Avsure on 0800 322 206 or email: [insure@avsure.co.nz](mailto:insure@avsure.co.nz) [www.avsure.co.nz](http://www.avsure.co.nz)



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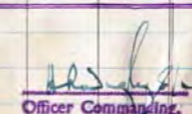
# Firing the Guns

Frank Parker with finger on trigger during a Warbirds Over Wanaka demonstration. Note the spent cartridge shells falling away - and expect the same again this year.

In our previous issue of KiwiFlyer we mentioned that visitors to this year's Warbirds Over Wanaka International Air Show at Easter could look forward to the Ardmore based P-40 Kittyhawk hunting and shooting down (albeit with blanks) some enemy aircraft. This is something of an only-at-Wanaka experience, last demonstrated there at the 2016 air show by the same aircraft, ZK-CAG owned by Frank Parker and Liz Needham. The news that the P-40's guns would again be firing, prompted recollections from a reader who fired WWII aircraft guns for real - with live ammunition in the theatre of WWII. Of course, that reader

is Bryan Cox, one of New Zealand's most well-known aviators. As a pilot in the RNZAF, Bryan flew Corsair fighters on Pacific operations during WWII. Post-war, he continued flying and amassed a total of over 21,000 hours in his logbook. Some 18,000 of these were spent instructing and Bryan was the flight testing officer for the issue of nearly 600 private pilot licences. Bryan can bring memories, facts and figures to mind in a manner many those half his age can only dream of. We at KiwiFlyer were delighted to receive some of those recollections by email recently. Bryan's words follow:

**I have** just been reading Issue 66 of Kiwi Flyer, and was interested to read that Frank Parker will be firing all six P-40 .50 calibre machine guns (three in each wing) at Warbirds Over Wanaka this year. It revives happy memories of firing them for real in Corsairs in the Pacific, but for armament training in New Zealand we normally only fired a single gun, at a 10 foot square target, firing at a range of approximately 300 yards for which our guns were harmonised. For air to ground training, the bullets were dipped in paint so that each pilot's score could be ascertained by the coloured markings on the targets. When Frank squeezes the trigger on the control column, using six guns, bullets will be dispatched at a rate of 60 bullets per second! The rate of fire of a .50 calibre Browning is 600 rounds per minute, and when divided by 60 that equals 10 bullets per

TOTAL FLYING ALL TYPES		HOURS	
		198-20	198-10
TYPE OF AIRCRAFT	FLYING DURING LAST MONTH	TOTAL FLYING AT UNIT	
1 P40	55-30	64-00	
2 HARVARD	1-30 20-30	1-30 20-30	
AVERAGE			
PROFICIENCY AS PILOT ON TYPE GUNNERY P. 40. ABOVE AVERAGE			
TO BE AWARDED - EXCEPTIONAL AVERAGE AVERAGE			
ANY SPECIAL FAULTS IN FLYING WHICH MUST BE WATCHED			
 Officer Commanding			

Bryan received an "Above average" P-40 Gunnery notation at Ohakea.

second - but multiplied by six gives 60 rounds per second - a lot of lead! Corsairs, Mustangs and P-40s at that time were all equally armed, and most folk are aware that early model Spitfires (as used in the Battle of Britain) were armed with eight .303 calibre machine guns, four in each wing, but were generally replaced in later models by cannons.

Similar to the RAAF Mustangs in Japan, our FG1-D Corsairs were also armed with British 3-inch rockets, four under each wing. Few people are probably aware that our Corsairs and other fighters normally only carried 20 seconds of ammunition. The reason being that most air to air, and air to ground firing was only for a few seconds - and on Bougainville when we did close support bombing and strafing for the Australian Army, it could take us about 30 minutes to exhaust all our ammunition, firing for only a few seconds on each strafing run, firing between smoke markers denoting the Japanese positions - all obscured by jungle!

During training I received an "Above average in P-40 Gunnery" at Ohakea with a best score on 22/8/1944 of 36% in P-40 NZ 3264 firing onto the 10 foot target from a range of approximately 300 yards, but achieved a better score in Corsair NZ 5542 on 24/1/1946 of 52%. It was probably a more stable gun platform.

The gunnery range at Ohakea I recall as being on Foxton Beach, and at Ardmore onto targets at Seagrove airfield, then located directly across the Manukau

YEAR:	AIRCRAFT:	PILOT, OR 1ST PILOT:	2ND PILOT, PUFFIN, OR PASSENGER:	DUTY (INCLUDING RESULTS AND REMARKS):	SINGLE ENGINE DAY
1944	Type. No.			TOTALS BROUGHT FORWARD	DUAL (1) PROP. (2)
					97-10 150-20
AUG 21	P40 3064	SELF		FORMATION LOW FLYING	1-00
	P40 3071	SELF		FORMATION LOW FLYING	55
	P40 3209	SELF		FORMATION LOW FLYING	60
	HARVARD 1048	F/L STANLEY	SELF	NIGHT FLYING DUAL CIRCUITS	65
	P40 3060	SELF		AEROBATICS	65
	P40 3264	SELF		AIR TO GROUND 100R. 36%	65
	HARVARD 1048	SELF		NIGHT FLYING - CIRCUITS	60
23	P40 3194	SELF		AIR TO GROUND 100R. 20%	60
	HARVARD 1047	SELF		NIGHT FLYING - CIRCUITS	55
	P40 3060	SELF		WEAVING & SCISSORING	55
	HARVARD 1060	SELF	Sgt HARRISON	INSTRUMENT	1-00
	P40 3066	SELF		WEAVING & SCISSORING	65
	P40 3066	SELF		FORMATION	65
26	HARVARD 1067	SELF	P/O HOLMES	INSTRUMENT	55
	P40 3066	SELF		WEAVING & X-TURNS	35
28	P40 3081	SELF		WEAVING & FORMATION	1-00
	P40 3097	SELF		WEAVING & FORMATION	1-00
	HARVARD 1066	SELF	P/O FOWELL	INSTRUMENT	55
	P40 3146	SELF		SPLASH GROUPING - SIX GUNS	50
26	P40 3264	SELF		EXPT 100R. 32%	50
	P40 3066	SELF		ADVANCED FORMATION	1-10
28	HARVARD 1058	SELF	P/O COULTS	INSTRUMENT	50
	P40 3270	SELF		FORMATION	55
	HARVARD 1053	SELF	P/O HAY	INSTRUMENT	1-00
GRAND TOTAL (Cols 1) to (10):				TOTALS CARRIED FORWARD	97-10 168-30
287				115	15

A page from Bryan's logbook in August of 1944. Note on the 22nd the entry for Air to Ground 100 rounds 36%. This was Bryan's best score (onto a 10 foot target from 300 yards). He had logged 250 hours at the time.

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YEAR		AIRCRAFT		PILOT, OR 1ST PILOT		2ND PILOT, PUPIL, OR PASSENGER		DUTY (INCLUDING RESULTS AND REMARKS)		SINGLE-ENGINE DAY	
1946	MONTH, DATE	Type	No.							DUAL (1)	PILOT (2)
TOTALS BROUGHT FORWARD											
JAN	15	FW	5570	SELF				20° DIVE - DRY ROCKET RUNS		97.50	444.10
	15	HARVARD	1057	SELF	1/4 HUTTON			INSTRUMENT FLYING			.55
	17	FW	5567	SELF				ANIMATORS			.50
	21	FW	5556	SELF				DIX TO GROUND 16%			1.00
	24	FW	5562	SELF				DIX TO GROUND 52%			1.00
Summary for JANUARY 1946											
Unit: No. 14 SQUADRON		Aircraft: 2 HARVARD		Types: 3						2.00	
Date: 11/2/46										.50	
Signature: [Signature]											
FEB	4	FW	5523	SELF				FORMATION			1.30
	5	FW	5538	SELF				FORMATION			1.20
	7	FW	5525	SELF				FORMATION OVER AUCKLAND			1.10
	8	FW	5537	SELF				FORMATION OVER AUCKLAND			1.00
Summary for FEBRUARY 1946											
Unit: No. 14 SQUADRON		Aircraft: 1 COSSAIR		Types: 2						5.00	
Date: 12/2/46											
Signature: [Signature]											
Summary for MARCH 1946											
Unit: No. 14 SQUADRON		Aircraft: 2 HARVARD		Types: 3							
Date: 30/3/46											
Signature: [Signature]											
Summary for APRIL 1946											
Unit: No. 14 SQUADRON		Aircraft: 1		Types: 1							
Date: 20/4/46											
Signature: [Signature]											
TOTALS CARRIED FORWARD										97.50 473.60 10.30 11.10	

Air to Ground gunnery practice - Bryan's "best ever" at 52% - in a Corsair before going to Japan.

YEAR		AIRCRAFT		PILOT, OR 1ST PILOT		2ND PILOT, PUPIL, OR PASSENGER		DUTY (INCLUDING RESULTS AND REMARKS)		SINGLE-ENGINE DAY	
1946	MONTH, DATE	Type	No.							DUAL (1)	PILOT (2)
TOTALS BROUGHT FORWARD											
1946	APR	HARVARD	1061	P/O MARTIN	SELF			CIRCUITS + R.T. CHECK DUAL			.30
		HARVARD	1061	SELF				CIRCUITS + F.P. + RECCO			.55
		HARVARD	1061	SELF				CIRCUITS + F.P. + RECCO			.35
		P40	M	3082	SELF			FIRST SOLO ON TYPE - ALMOST LBS			.50
		P40	N	3174	SELF			CIRCUITS + RECCO			.55
		P40	N	3136	SELF			RECCO + FP			.55

P-40 DVAs. The transition between Harvard and Kittyhawk comprised these and "some poorly cyclostyled notes". Note Bryan's entry for a first P-40 solo after a checkout in Harvard NZ1061. Bryan flew NZ1061 again 65 years later.



In 2009 Bryan enjoyed "30 minutes of aerobatics" in NZ1061 with owner David Salter at Temora, Australia.

Harbour from Auckland Airport.

Perhaps some of the above may be of interest to readers - considering that my age at Ohakea was only 19 years, and total solo flying time in the logbook on reaching Ohakea, and making my first flight in a P-40 on 3rd August 1944 was only 113 hours and 40 minutes. All we were given was the (attached) Drills of Vital Actions for Take-off and Landing, and some poorly cyclostyled notes telling us to enter a loop at 300 mph, and a roll-off the top at 330 mph, and to observe a VNE (Velocity Never Exceed) of 485 mph IAS. That was only six months after flying Tiger Moths! I was checked out for the P-40 flight in Harvard NZ1061 by Bob Martin, one of the first four pilots to shoot down a Japanese Zero Fighter, a year earlier.

That logbook page brings to mind another occasion where I was reunited with Harvard NZ1061 some 65 years later in 2009 at Temora (a vintage WWII aircraft airfield) in Australia. The RAAF didn't use Harvards as they built their own version named the Wirraway, both having the same Pratt and Whitney 600 hp engines. We have more family in Australia than New Zealand and I have lived there twice - most recently in Ballina NSW 2007 - 2010 inclusive. As I had seen 1061 at Ardmore in the 70s awaiting ferry to Australia, one day in Ballina in 2009 I googled 'Harvard NZ1061'. Within ten minutes I found that it was now owned by a David Salter of Walcha NSW, so I phoned him, and he said that if I could get to Temora on 23.10.2009 I could fly in it again! - which I did on our way down to Melbourne to stay with our eldest daughter there. David is a 30,000 hour plus, ex Ag pilot now owning about six fixed wing aircraft and one helicopter, and at Temora we spent about 30 minutes doing aerobatics! Although now threatened by fires he has avoided them by extensive back-burning, and I am in regular contact with him. I found 1061 now to be in immaculate condition.

Bryan

Bryan's email of course initiated return correspondence regarding various subjects including the intensive training regimes of his era and by comparison the upcoming Walsh Memorial Scout Flying School at Matamata, plus other things. Bryan's subsequent comments were just as interesting as his Kittyhawk gun firing tales, shared here for readers with Bryan's kind permission:

Students today including the Walsh School at Matamata would mostly be sent solo in Cessna 152s, as I also did about 260 times between 1964 and 1990 at Ardmore. During WWII every pilot was sent solo in Tiger Moths which were vastly different aircraft to fly, including spinning. It is quite difficult to accidentally spin a Cessna 152, but relatively easy in a Tiger! Depending on how we flew the Tiger, we were graded for single-engine, or multi-engined aircraft, (fighters or bombers) so as I received an Above Average assessment I was selected for fighters. I even did inverted spinning in the Tiger although my instructor declined! I had purchased a Kermode book titled The Aeroplane Structure in which it said that when inverted, the flying wires became the landing wires, and the landing wires became the flying wires, which I proved to be true!

It has always amazed me how a country with a population of only 1.6 million in 1940, managed to train 13,235 aircrew of which 4,300 were killed (32.5%) in just six years. Attached is a photo of 30 members of our No.4 OTU course converting from Harvards onto P-40s at Ohakea in August 1944, with a similar number in No.2 OTU - after which 60 of us were posted to Ardmore to convert onto Corsairs - which is why there were 60 Corsairs based at Ardmore until the war ended in August 1945.

Once in a Squadron, virtually all flying was done in sections of four aircraft with a maximum of twelve aircraft as per the photo. No more circuit joining procedures, but 'buzz and break' rejoins, and in twelves we did 'Rhubarbs' - two-hour low-level cross countries, in tight formation with the leader flying at 500 feet, and farm houses and cowsheds flashing past a few feet below!

In August of 1944 I flew 64 hours in 31 different P-40s! with



No.4 OTU Ohakea 1944. Bryan is top row 3rd from left.



Bryan with Corsair NZ 5648 at Tauranga in 2014.

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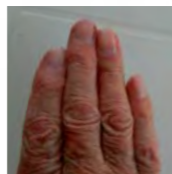
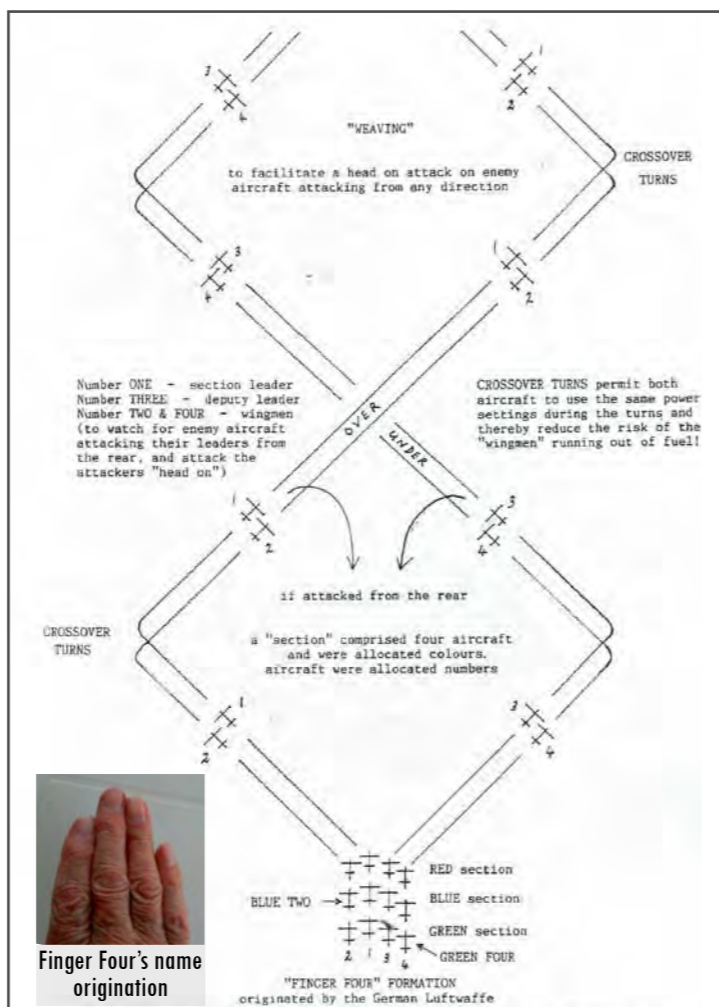
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only a little more than 110 hours solo in the logbook prior to my first P-40 flight. Memorable flights included our introduction to twelve formations, and weaving and scissoring defensive manoeuvres, conducted anywhere between 10,000 feet and 25,000 feet AMSL. The Germans first adopted what we called 'Finger Four Formation', made up of two leaders and two wingmen - who kept a good lookout to the rear of their leader. Prior to Finger Four Formation the RAF had mainly flown in VIC formations with a leader and one wingman on either side, which wasn't very manoeuvrable! In Finger Four Formation, if attack is imminent, the two pairs would split apart and commence 'weaving' in order to turn head-on to any attackers from each side or behind.

Apart from plenty of aerobatics, but not any spinning as we had done in Tigers and Harvards, another memorable exercise was low flying in Finger Four Formation, at between 50 and 100 feet AMSL along Foxton beach avoiding the sand dunes, and I recall one 'interesting' flight when our leader Arthur "Zoot" Stanley from Hamilton, nonchalantly removed his goggles and carefully used a rag to clean them, with a 'student' in a P40 only a few feet away on either side!! I had known Arthur since our school days at Hamilton Tech, where he was a close friend of my brother Grant, both interested in radio technology (just developing at that stage) with Arthur proudly showing us his new oscilloscope, the technical predecessor of television.

At Ohakea they had a P-40 virtually made up from components from wrecked aircraft, called the 'Silver Barge' as it was unpainted, and with no armaments was much lighter than the standard models. On one flight Arthur led four of us in the Silver Barge, doing close line-astern aerobatics, and I was directly behind him as No.2. He told us to break off for a bit as he wanted to test out



Finger Four's name origination

▲ In the "Weaving" exercise above, Blue and Green sections each delayed a few seconds behind each other, so that Green section was commencing the outward leg as Red section was turning in - permitting guns to be pointing in as many directions as possible. "Scissoring" was an advanced, more vigorous version, with inbound legs meeting almost head-on. To avoid conflict, wingmen went below leaders, and each section stepped down

Finger Four Formation counter attack weaving manoeuvres.



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the Silver Barge. Sitting close behind him he did a few loops, and I discovered that in the dives I had to throttle back as my heavier P-40 tended to catch him up, and in the zooms - as he was lighter he tended to pull away from me! I don't think he was ever aware that I had been sitting right behind him!

In No.14 Occupational Squadron in Japan in 1946/47, where we were appointed as 'Headquarters Squadron' at Iwakuni near Hiroshima, our first combined BCOF (British Commonwealth Occupational Force) operation was on 'Empire Day', the 24th of May 1946, when we led a Commonwealth fly-past over Hiroshima??? That was with our No.14 Squadron formation of 12 Corsairs leading, with 12 RAF Spitfires on our right, and with 12 RAAF Mustangs beside

us on our left - and with every pilot wearing a straw boater hat!

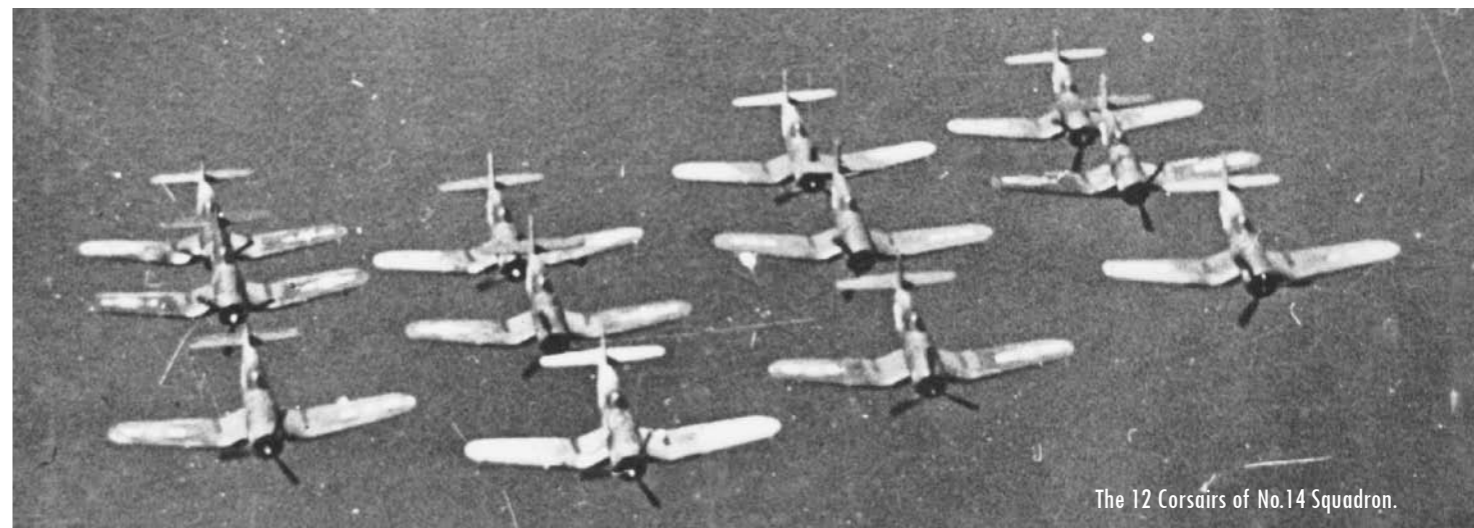
The RAAF had three squadrons of P-51 Mustangs based at Bofu, about 50 miles to our south, and the RAF had three squadrons of Mk XIV Spitfires at Miho about 100 miles to our north. One of the RAF squadrons was actually RIAF (Royal Indian Air Force) which soon after became India and Pakistan - each with separate Air Forces! And I also recall reading of some subsequent aerial conflict between the two!

Bryan

At about the same time we were putting this issue of KiwiFlyer together, on 15th January 2020, Bryan turned 95 years of age. Happy Birthday Bryan, with our very best wishes for this year and plenty more to follow.



Arthur Stanley (centre).



The 12 Corsairs of No.14 Squadron.

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# What was I thinking?

Ryan Southam at the controls of Eric Driver, Brian Greenall and Rex Handley's recently completed Nieuport replica.

Gavin Conroy image

Some nine years ago, Eric Driver and a couple of friends were presented with an opportunity to acquire a partially completed replica WWI aircraft project. It was an opportunity not to be refused, eventually resulting in a fine looking addition to the stable of very interesting aircraft that are domiciled at Omaka. Eric tells the story:

**I**ll confess right off that I'm a dreamer. I've dreamt, ever since I was a child, of becoming a pilot - and that dream eventually came true fairly late in life. What I hadn't dreamt of was actually building an aircraft, let alone a WWI replica. But if you're given the chance, are you going to turn it down? Definitely not!

This came about when a number of us here at Omaka were approached

with a proposition to obtain a partially built 7/8th scale Nieuport 17 going at a reasonably cheap price. The temptation was that it could be accommodated in the same container as a Nieuport 11 replica which had just been purchased in the USA by our soon-to-be mentor Graham Orphan. Three of us, Brian Greenall, Rex Handley and myself, decided this sounded like a good idea. We formed a syndicate

to complete it, mainly on the basis that its dimensions were pretty close to that of a Nieuport 16 which would then become the sister ship of the Nieuport 11.

### The beginning

The beginning of our aircraft goes back quite a few years when an American called Frank Luft, who had quite a few thousand hours under his belt, decided he wanted a WWI replica aircraft and opted for the a 7/8th scale Nieuport 17 but with a modern aerofoil. He was in communication with an engineering buddy for some time to determine what would be the optimal shape before he eventually bought his first pieces of hardware for the project - a couple of Honda motorcycle wheels. This was back in 1973. The project progressed over the years until due to failing eyesight, he had to sell the project. The buyer was only interested in the engine that he had acquired, hence the reasonable price we were able to obtain it.

### The project starts

What eventually arrived in the container was a 'glad wrapped' metal fuselage frame, complete with fuel tank, beautifully completed wooden side panels and rear decking, finished metal tail assemblies, all the ribs for top and bottom wings, completed top wing spars and wood for the lower wing spars. The project lay untouched for about a year while we determined whether to convert it to the correct Nieuport 16 fuselage layout or complete it as its designed Nieuport 17 configuration. Our expert in aircraft construction, Rex Handley, suggested that it would be better to complete it as intended and only later on make the required changes - if we were still of that mind. As the intention was always to head down the N16 path we determined that the engine cowling should match the N16 configuration with the lower cut-out. The next question was which engine to use. The owner of the Nieuport 11 was also looking for an engine and so a deal was struck with Rotec of Victoria, Australia for a pair of their R2800 engines developing 110 hp - which happened to equate with the power of the Gnome engines of the original.

The initial intention was to put the aircraft in the colour scheme of Albert Ball's aircraft which were equipped with Le Prieur rocket mountings, however a certain sporting event known as the Rugby World Cup put in an appearance. The Russian rugby team were based in Blenheim for

their training and it was decided that, in their honour, we would give the aircraft an Imperial Russian colour scheme. For this purpose we opted to select a Nieuport 17 scheme used by the 22KAO unit which happened to have a mermaid on one side. Impressed with the artwork by which the Russians adorned their aircraft, I decided that on the other side we would display a copy of an Italian painting of a Sleeping Venus which had been used on a different aircraft. It was intended to be eye catching and so it was!

This brings me to a point about the Omaka aviation fraternity: everyone was

willing to give advice or a helping hand in the project. A local sign writer, Chris Boyce, produced the required images and applied them once the fuselage had been covered and given its final coat. The whole project was supervised by Jay McIntyre of JEM Aviation who provided invaluable assistance as well as actual work where required. While Rex concentrated on constructing the wings, I and others set about cleaning up the metalwork ready for inspection prior to painting. We were pleasantly surprised to find that all the welding had been performed to a high standard and only surface cleaning was

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The unwrapped fuselage.



After stripping down.



Upper coaming in progress.



Priming the fuselage.



Marty Nicoll applied the first coat.



Rear fuselage finished with one of the 'ladies'.



Full fuselage complete with the other 'lady'.



Trial fitting by Russian Rugby forward!



Rex Handley working on the wings.



Stitching by the late Dave Simms and Brian Greenall.



The mock Lewis gun made of plastic and wood.



First test flight with Ryan Southam at the controls.

required. When it came to covering we all pitched in and learnt yet another skill: sewing fabric to the ribs. Final assembly of all the parts was a day to remember – it really did look like the aircraft it was meant to be!

The next step was to have it test flown. Omaka is fortunate to have pilots who are not only experienced in taildraggers but also in WWI types in particular. It was first flown some nine years after the container arrived and just before the biannual Yealands Classic Fighters Air Show in 2019, where it was cleared to fly in the show itself. Our test pilot, Ryan Southam, was so impressed with its performance that after the initial test he promptly took it up again for a further test without any tweaks being required. Anyone who attended the show would have seen it flying with its stable mate and putting on a good display. What you would not have known was that the pilot on that day had never flown it prior to the display and pronounced it as 11 out of 10 for handling!

An unfortunate footnote is that Frank Luft did not survive to learn that his project had finally taken to the skies - even if it wasn't in the colour scheme which he had envisioned. However I am sure he would have been really chuffed to learn that the results of all his initial hard work had met, if not exceeded, his expectations.

### Enjoying the fruits of your labour

Personal circumstances do change from time to time and in my case it has turned out that my ambition to fly the aircraft is not to be. I don't have any regrets but not being able to fly it myself (due insurance requirements) is definitely a disappointment.

With that in mind, I do recommend anyone thinking of getting involved in a similar project might check such matters out first. Some suitable questions could be: Where and what cost




The happy builders: Eric, Rex and Brian with Ryan.

will hangarage be? Will your experience meet the requirements of potential insurers? Can you split the build and then the annual fixed operating costs with a syndicate if others are keen to participate?

If the answers are all positive, then there'll be no holding you back! Of course you need to give fair consideration to any negatives, though you might just be happy to go along for the ride!

Regardless of not getting into the pilot's seat, the high points of this project for me were many: I have met a wonderful bunch of people, I have learnt skills I didn't think I'd be able to master and I have the great satisfaction of seeing a product of my labours (not to mention a lot of others' labours too!) take to the air. Recommended!

Eric Driver 

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A view across the Westport fishing lagoon to Westport with the Paparoa Ranges in the background.

# Fly yourself to Westport

Ruth Allanson visited Westport for this edition's Places to Go pages. There's accommodation close by the airfield and plenty to do around town. Handy too for practising navigation and flying safety skills.

**NZWS** Westport is situated 99km up the coast from Greymouth and is the biggest settlement in the Buller area of the West Coast, with a population of over 4000 people. Flying in offers a speedier way of getting there than driving, however having done both, the flying option can really offer some interesting and challenging

scenarios, depending on the weather. Make sure you have a good look at the forward weather and if you are not familiar with the area, take someone who is. The learning in this area when the weather is not the best is really fantastic but there are hazards such as wires in the Buller Gorge, and the Barber Wind that you must be aware of to ensure a safe and enjoyable flight. [Wondering what the Barber Wind is? It's the local name for a chilly damp katabatic wind formation that blows down the Grey Valley.]

NZWS provides a sealed runway on the east side of the Buller River and is 04/22, 1280 metres and unattended using 119.10.



Westport's art deco influenced civic building.



Amazing stalactites & stalagmites in the enormous Charleston Glow-worm Cave.

There is BP swipecard Avgas and Jet A1 with a honesty box for landing fees. A grass tie-down area is provided on the seaward side of the terminal - take your own pickets as it can blow here. Birds are present all the time and look out for the scheduled Sounds Air services (15 weekly flights from Wellington).

The airfield is situated at Carters Beach (swimming, golf, holiday park) and nearby Cape Foulwind. Having stayed at the Carters Beach Holiday Park a couple of times, I can report it is right by the sea, with clean amenities and a variety of accommodation options to suit different budgets. Walk from the airfield or give them a call for a pick up on 03 789 8002.

The local rental car company is Rimu Rentals (027 432 9839). Or there are taxi options including Westport Cabs (03 789 6260).

Cape Foulwind is nearby and is home to a seal colony, and seasonally, the hector dolphin, Orca and the blue penguin. Take what DOC says is one of the best short walks in NZ past the light house, seals and beach.

Westport town is a 7 minute drive across the Buller River from Carters Beach. Founded in the 1860s the port was popular for the shipping of gold and then later coal. The town boomed in the 1950s with a population of over 5500 and has been in gradual industrial decline since, with tourism now playing a key role in local prosperity.

As a tourist, you can visit the a simulated underground mine at the Coaltown Museum including a 'Q' wagon on a 45 degree display showing the angle of the steepest part of the Denniston incline, on which this wagon would hurtle 8 tonnes of coal downhill.

Visit historic Denniston Mine too. Get there via a scenic 30 minute drive from town that climbs up to the Denniston Plateau.

The incline and steep windy hill tracks were the only access into this once bustling town (where 10 people still live – there were 910 once) and in the day, people of Denniston were said to be wildly passionate about the area - they either disliked the place immensely or could not get enough of it. Nowadays all but a few buildings are lost into the dense scrub and formidable landscape. You can explore around the old incline itself and read the information boards or take an organised tour. While I was there the eerie cloud of the mountains swirled about often obscuring the beautiful scene below and giving a real sense of what hardship was endured here.

The town has suffered many earthquakes, the worst being the Murchison earthquake in 1929 which is why Westport now features many art deco buildings.

Another spot which is a great visit is Charleston, a short drive south. Here you can visit Underworld Adventures and take a train into the magnificent rain forest of the Nile Valley and explore the cave system on tube rafts while viewing the best glow-worms in the country. [www.caverafting.com](http://www.caverafting.com)

Back in Westport, visit the West Coast Brewery. They offer guided (interactive!) tours. They also make ginger beer - perhaps you made it when you were a kid if you had the patience to grow the ginger beer bug, painstakingly wash the bottles and then wait for it to brew. [www.westcoastbrewery.co.nz/love-gingerbeer](http://www.westcoastbrewery.co.nz/love-gingerbeer)

Locals recommend Jay's Café as a good place to eat. For a friendly bar & restaurant I recommend the Denniston Dog. It is worth mentioning that in its heyday, Westport held the record for having more public houses in its main street than any other town in New Zealand.

NZWS is well worth having on your PTG list – you'll be able to hone your aviation navigation and safety skills, plus explore a heritage-rich part of our country.

Ruth Allanson 



Ride along the ridges on the Old Ghost Road



Westport. The airfield can be seen to the south of the river mouth.

## Help to defend and promote General Aviation in New Zealand

The General Aviation Advocacy Network of New Zealand (GAA) has no formal membership, no committees and no fees. It's simply a voluntary social network of more than 2000 pilots, engineers and operators, supporting each other and standing up for GA against red tape, spiralling fees and powerful bureaucrats. You can help to make a difference. Just drop an email to

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Over the last 12 months, Gavin Conroy has made numerous trips north to Masterton to photograph aircraft from The Vintage Aviator Limited's magnificent collection. Here are some of his favourite images:



Graham Holley in a Fokker Dr.1 Triplane.



A BE.2C replica leads the world's only airworthy BE.2F.



Three Albatros Fighters in formation. This was a very good fighter in the early to mid part of WWI.



Paul Hughan flying the Nieuport 11. This machine is used to introduce pilots to the rotary powered aircraft.



John Bargh flying an original Avro 504K. This is a very significant aircraft in terms of New Zealand aviation history.



Dave Horrell flying the only airworthy FE.2b in the world. In the front is gunner Scott McKenzie who also flies this monster with nearly a 50 ft wingspan.



One of the few original Sopwith Camels left flying. It is powered by a Clerget rotary engine and flown by John Lanham.



This BE.12 is another aircraft which is the only one of its type flying worldwide.



Andrew Vincent flying the BE.2C leads Gary Yardley flying the Avro 504K; a magnificent looking pair of machines.

Garvin Conroy images



Where else in the world can you see three rotary powered Sopwith Pups flying together. Apart from here, nowhere!

Gavin Conroy Images



This Hanriot HD.1 is also original. It was on static display in a museum in the UK but now it's flying again to the surprise of many.



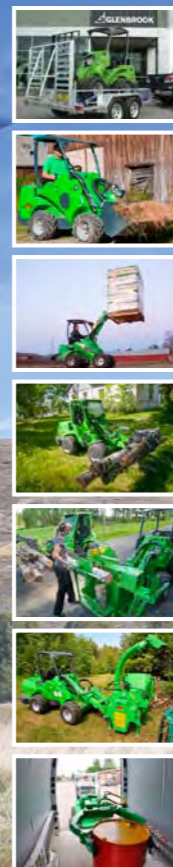
A beautiful and original Bristol Fighter F.2B out on a lovely summer day. Less than a handful still fly worldwide.



Gary Yardley flying a reproduction SE.5a. TVAL operate three of these that were built in-house and are a favourite among the pilots.



Dan Pezaro flying a very rare DH.4. This is another of the largest aircraft in the collection with a big engine and it has the performance to match!



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Mount Ruapehu, Tongariro National Park.

# Volcanic Ash and Aviation

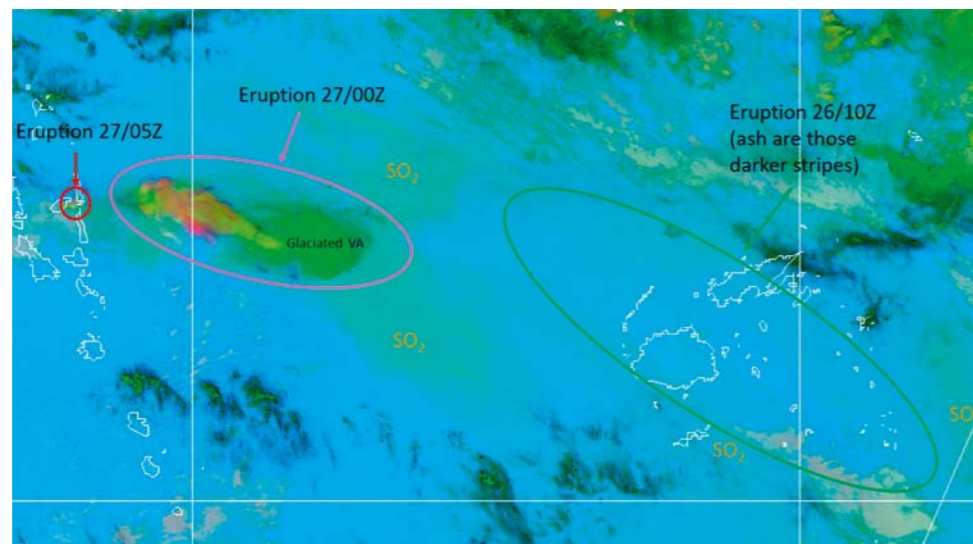
Volcanic eruptions are common in many parts of the world including New Zealand, the recent tragedy of Whakaari / White Island being an obvious example. Volcanic ash poses a potentially severe hazard to aviation, causing all manner of issues for aircraft which

fly through it. Ciaran Doolin is a MetService Meteorologist and Adjunct Teaching Fellow at Victoria University of Wellington. In part two of a new KiwiFlyer series on meteorology for aviators, Ciaran explains the risks and how these can be mitigated through planning.

## Volcanic Ash Advisory Centres

MetService operates one of the nine Volcanic Ash Advisory Centres (VAAC) around the world – our centre is known as VAAC Wellington. Each VAAC is responsible for monitoring their area for volcanic eruptions and for issuing warnings and forecasts of ash to aviation users if it is present in an eruption plume.

The international network of VAACs was established by the International Civil Aviation Organisation (ICAO) in the early 1990s in response to a series of ash encounters by commercial aircraft. Two incidents in the 1980s, both involving Boeing 747s, stand out: British Airlines Flight 9 (BA9) experienced a four-engine flame-out after flying through ash from Mt. Galunggung in Indonesia; KLM



Himawari-8 "ash RGB" satellite imagery for eruptions of Aoba volcano in Vanuatu in late July 2018. Areas of ash and sulphur dioxide (SO<sub>2</sub>) corresponding to a succession of high-level eruptions are highlighted.

Flight 867 (KLM867) also lost all four engines after encountering ash from Mt. Redoubt in Alaska.

Each VAAC is responsible for issuing volcanic ash advisories (VAA) in the event of an ash eruption. Volcanic ash significant meteorological information advisories (VA SIGMET) will be issued by the same national meteorological service if the ash falls within their flight information regions (FIR). Our VAAC deals with many eruptions in Vanuatu, including instances where the ash lies outside the New Zealand's oceanic FIR (NZZO). In these cases, the Fiji Meteorological Service takes responsibility for the VA SIGMET corresponding to the VAA which is issued by VAAC Wellington.

## In-flight hazards posed by volcanic ash

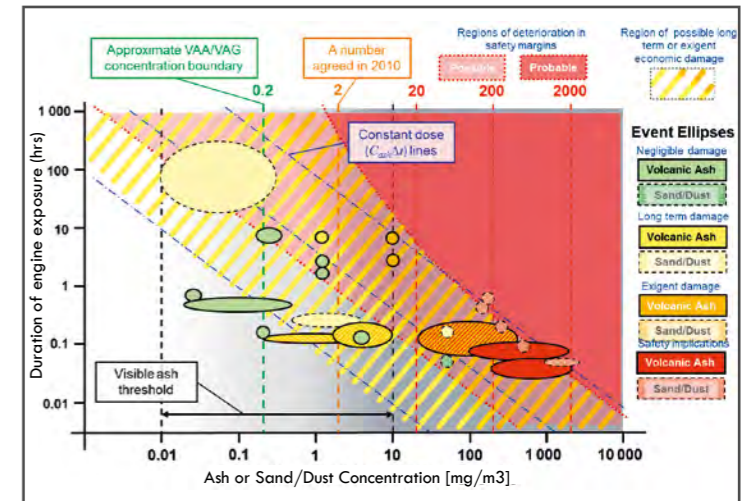
The near catastrophes of BA9 and KLM867 highlight the severe hazard volcanic ash can pose to aircraft. Ash is typically composed of a mixture of sharp, angular fragments of volcanic material that range in size from a fine powder to a few millimetres in diameter. It can enter the ventilation system, clogging and abrading ducts on the way through, as well as the pitot-static system, causing erroneous airspeed, altitude and altitude-trend readings. However, it is important to note that these particles are too small to appear on onboard weather radar. The BA9 crew initially became aware that something was awry when they witnessed extensive St. Elmo's fire across the aircraft's surfaces – but they could see no evidence of thunderstorms on the radar. [St. Elmo's Fire occurs when the atmosphere becomes charged and an electrical potential strong enough to cause a discharge (plasma) is created between an object and the air around it. This can happen to an aircraft flying through heavily charged skies.]

Volcanic ash is very hard, so it scratches glass, plastics, and metal easily. Any forward-facing surface will be damaged. Jet engines are particularly vulnerable to damage. The ash can also erode moving parts such as compressor and turbine blades. Furthermore, the melting temperature of volcanic ash is less than the combustion chamber temperature at flight idle. Molten ash can accumulate in the engine, choking fuel nozzles and disrupting air flow. The potential result is engine surge and flame-out. All these effects occur very quickly, so flying through a concentrated ash cloud poses an immediate hazard to flight.

## VAAC Wellington operations

MetService's aviation meteorologists, who also operate VAAC Wellington, use a complement of observational tools and computer modelling to diagnose eruptions and prepare warning products. Observations include webcams, seismic drums, radar, satellite imagery and pilot or observer reports. The last two are arguably the most important observational evidence we receive and, more often than not, are invaluable in diagnosing the current state of a volcano.

In the volcanic ash context, it is very important to determine the vertical and horizontal extent of an eruption plume, and whether ash is present or not. Sometimes this can be confidently determined from satellite imagery. At other times, high cloud obscures the ash plume, or the ash has dispersed, and pilot reports become the most reliable source of information. It is important to understand that not every volcanic eruption produces large amounts of ash. Often eruptions only involve steam and volcanic gases like sulphur dioxide and carbon dioxide. In clear conditions, ash plumes have a brown appearance, whereas gas plumes look like



Rolls-Royce chart of ash dosage engine tolerances. Pink background regions represent flight safety hazard; yellow/orange hatched region represent economic hazard. Circles/ellipses represent historical ash encounter events: negligible damage in green through to flight safety implications in red.



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meteorological cloud – i.e. white or grey.

Once an eruption is detected, and its magnitude determined, ash dispersion modelling and other computer model guidance can be used to ascertain the most likely trajectory the ash will take. This information is then communicated to aviation users through the VAA and VA SIGMET products.

### Recent development and future directions for VAAC Wellington

#### Himawari-8 satellite imagery

In 2015, data from the Japan Meteorological Agency's Himawari-8 geostationary satellite became available to VAAC Wellington. This provided meteorologists with much higher spatial and temporal resolution imagery. Moreover, a greater range of imaging channels than the predecessor satellite, MTSAT, allowed sulphur dioxide and ash to be distinguished from each other.

#### VAAC Key Performance Indicators

In 2017, ICAO, as part of the Meteorological Operations Group's International Airline Volcano Watch workstream, agreed with the nine VAACs to a series of Key Performance Indicators (KPIs), to be reported as part of the combined VAAC management report. The KPIs are split into timeliness and accuracy aspects. The timeliness theme is described in the following two KPIs:

- the initial VAA, detailing that an eruption has occurred and “more information to follow”, is to be issued within 20 minutes, following receipt of information of ash in the atmosphere; and
- the next VAA, containing detailed information about the observed and forecast areas of ash, is to be issued within 75 minutes.

#### Ash concentration products

At present, the VAACs operate in an “ash/no ash” paradigm. The experience of the eruption of Eyjafjallajökull (otherwise known as the Iceland volcano) 2010 caused a profound rethink of this qualitative approach. The economic consequences of mass groundings across Europe during this period led to calls by operators for quantitative ash concentration forecasts to be routinely issued by each VAAC, so that flights could be planned through regions where ash concentrations were deemed tolerable.

Since 2010, Rory Clarkson at Rolls-Royce has conducted substantial research to update the ash guidelines for Rolls-Royce engines. Ash hazard is a function of ash concentration and exposure duration – “ash dosage”. His results demonstrate that aircraft can tolerate ash dosages of up to 14.4 grams seconds per cubic metre without flight safety hazard, although they may experience economic impacts through a reduction in engine lifetime at less than that threshold. This dosage threshold is equivalent to flying in an ash concentration of 2 milligrams per cubic metre for two hours.

ICAO aims to have ash concentration forecasts routinely available from each VAAC to the aviation community by 2026. Several scientific obstacles stand in the way of this objective. Chief among these is the difficulty of determining ash concentration by satellite. Sophisticated algorithms can determine the quantity of ash present in each satellite pixel – i.e. the total mass of ash present in the column of air between the satellite and the Earth's surface. However, calculation of ash concentration requires knowledge of the thickness of the ash layer. This cannot be determined from satellite, though ground- and air-based observations may help. Reliable ash concentration modelling requires accurate knowledge of observed concentrations, so any errors in the latter will be carried through into the former. Both the observational and modelling aspects of this problem are the subject of ongoing scientific research.

Recently, a proof-of-concept ash concentration and dosage risk product has been presented in an academic paper. Charts were produced for a hypothetical flight from New York to London using ensemble-based ash dispersion modelling. Ensembles are used extensively in meteorology to quantify the uncertainty of a forecast. A set of models is created by adopting slightly different initial conditions for each ensemble member, and the degree of correspondence between the different model solutions provides the meteorologist with a measure of uncertainty in a forecast. To learn more about this work, readers may refer to: <https://rjets.onlinelibrary.wiley.com/doi/full/10.1002/met.1759>

#### Conclusion

Volcanic ash monitoring and forecasting is a rapidly changing field, which straddles the boundaries of several scientific disciplines: meteorology, volcanology, aeronautical engineering, to name a few. Major disruptions due to events like the Eyjafjallajökull eruption in 2010, have precipitated changes in the traditional approach to volcanic ash. Technological and scientific advances, particularly in satellite ash detection and ash dispersion modelling, are coming thick and fast. Although there are still many hurdles to be overcome, it is likely that routine ash concentration forecast products will be available to aviation users before the end of the decade.

Ciaran Doolin 



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Jill McCaw in the front of the Omarama Gliding Club's Duo Discus. Alex took the Instructor's seat in the back.

## My son the CFI

Most aviation enthusiasts who are parents hope that the flying bug will prove hereditary for their children. Sharing the fun is after all, at least half of the fun itself. That's certainly turned out to be the case for Jill McCaw, proud Mum of Alex.

**My** babies crawled, walked; flew.

About five years ago I started an article for KiwiFlyer with those words. They're a short, short story written years earlier as part of an online writing challenge: to write a complete story only one sentence long. Many people in the writing community remarked on the poignancy of it. Not many of them realised that I meant it quite literally. My fledglings grew up around gliding fields surrounded with gliding people. The pseudo village that raised my children was the aviation community and you couldn't find better people to discipline, instruct and mentor your children.

My fledglings are now thoroughly

launched. And my eldest son Alex is now the CFI of the Canterbury Gliding Club.

When I heard he'd become CFI I burst out laughing. I'm sorry, but I did. There was no real reason, he's an experienced instructor, sensible, and ticks all the boxes for the sort of person you want in a position of responsibility. I guess it was the shock of realising that I'm old enough to have a son who has reached these lofty heights.

Alex and I had a flight together at Omarama a couple of days after Christmas. I took the front seat of Omarama Gliding Club's Duo Discus, a comfortable cross-country two-seater while Alex took the instructor's seat in the back. He's a very good backseat driver.

Not all instructors are good at being instructors. Alex is. It's hard to explain to non-glider pilots but the backseat driver can make or break a flight. I was flying the glider while he encouraged, guided and celebrated my ability to still fly and climb the aircraft, taking over only when

I mucked up a crucial climb. I don't fly very often anymore but he was patient as I found my wings. We collaborated on our route and he was respectful of my wishes not to extend ourselves once I became fatigued. I saw a side of him I'd suspected but not seen before.

Alex soloed at age 14, an age we'd decided on after some debate. He had a friend who'd soloed at 12, there being no age limit for glider solos and Alex was sure he could do just as well. The ability to solo is up to the discretion of the instruction team. We felt fourteen was about right for both of our kids to learn to glide. They were old enough to be sensible and safe and were large enough to handle the controls. We and our gliding club friends noticed something about all our kids as they learnt to fly. They took it very seriously and suddenly they took a lot of other things very seriously too. Their schoolwork improved. I was far more concerned when a couple of years later they started

learning to drive, because as they saw it, that was something that everyone could do, so they didn't give it the gravitas that maybe they should. There was the potential for a lot more trouble on the road than in the air.

The air turned out to be Alex' place and soaring was his thing. He quit playing rugby to have more time to earn money to support his flying. He and his friend Nick set their sights on flying the Junior World Championships in Australia in 2015, four years away. Everything was about preparing for that contest. Along the way, at the age of 18, Alex became the youngest person ever to fly a FAI 1000km flight. Podium finishes at the Junior Worlds looked possible right up until the third to last day of the ten-day competition. They were flying against the best of the best and did their country proud.

Not deterred and of the age to really spread their wings the boys headed to the UK and the European competitions. They both entered and flew at an 'adult' worlds in Lithuania in 2016, making friends and impressing the international gliding community. They flew in Scotland, France and Spain and once again represented New Zealand at the Junior Worlds in 2017, flying from the same site in Lithuania. One of the proudest moments of my life was seeing Alex take his place on the podium after a day win at that competition. It wasn't enough to get him to the final podium but to win a day at an event like that is an amazing achievement.

I had a surreal moment as I thought back to my first glider flight 32 years earlier and how I could never have imagined my future to involve standing in Lithuania watching my son win a day at a 'Worlds'.

Now that he's home and settled Alex flies for fun; long cross-country flights in the Cirrus glider he owns with his father. He became an instructor some years ago, giving back to the gliding community.

And now he's CFI. And that makes me smile.

Aviation is good for kids. Get yours flying. If they'd like to try gliding check out Youth Glide New Zealand's website for information.

Jill McCaw 

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# Akro Fest 5

Gavin Conroy Images

David Cranna going end over end in the four minute freestyle.

Towards the end of every year at Omaka, it's time for the annual South Island Akro Fest. Created by Andy Love and friends in 2015, this event has become a staple of the NZ aviation calendar. Andy reports here on the 2019 edition. Gavin Conroy took the photos.

The fifth edition of the South Island Akro Fest was run in late November at Omaka Aerodrome. Organised by the NZ Aerobatic Club and hosted by the Marlborough Aero Club and Aviation Heritage Centre, we have grown this event

considerably since it was first run in 2015, at the time celebrating 70 years of the Pitts Special.

We run the same classes as at our other events including Nationals, with the addition of the Vintage Class, tailored for classic aerobatic aircraft. Each class is restricted by way of the difficulty factor, so that the technical aspects of each category even out the variations in aircraft and pilot experience.

This year, we had a wide variety of aircraft participating, ranging from numerous Pitts Specials, to Yaks and high

performance monoplanes, with everything else in between. Five pilots competed for the first time and there were several others returning from the previous year's event. We run this event prior to Christmas each year as a 'sort of' practice session leading up to our National Championships at Hood Aerodrome, Masterton.

We commenced on Thursday morning with a briefing for the days flying which was a practice day for all. The following morning, we kicked off the event proper with a huge day of competition sequences. This was a combination of the Known



Ivan Krippner also performing in the four minute freestyle which he would go on to win.



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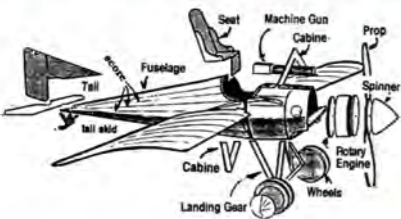
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sequences and the Free sequences which each competitor can design for themselves according to the rules of the category they are flying. We flew some 35 flights in total, before retiring to the Aero Club for dinner and refreshments. Saturday morning commenced with the Unknown sequences which are handed out the evening prior and can be studied ahead of the flight. However, one cannot fly this sequence until the actual contest flight itself. This is the flight that tends to separate the competitors; a real test of situational awareness, understanding the limitations of one's aircraft and being flexible with the sequence itself.

After lunch, we flew the four minute Freestyle, a separate competition to the rest of the event. This flight is a test of the pilot's ability to be original, display the aircraft to its full potential and to execute a display which showcases the very limit of the envelope. We had six pilots compete in this class, with favourable feedback from those watching. It is a fitting way for pilots with low-level approvals and appropriate training to let their hair down, so to speak, and to practise an array of manoeuvres in a competition environment. See results over page.

It was great to see so many first-time competitors, including Adam Butcher flying his Pitts Special S2A. Adam has flown a variety of aircraft over the years including numerous aerobatic and vintage types. Having never competed previously, he flew exceptionally well and thoroughly enjoyed himself. We had four new pilots all fly in the Primary class this year in an Alpha and Robin. The three pilots from Canterbury all flew our Alpha, VCC, and did a fantastic job. I assisted with their preparation for the competition, and it was all very rewarding. Iain and Alexandra are still working through their aerobatic training, while Sarah has an aerobatic rating. Pierre too, was aerob rated but new to competition. As a club, we aim to grow this class and encourage more and more pilots to come along and have a go. If nothing else, it is an extremely rewarding experience where you will gain a lot of knowledge, plus improve your ability and mindset. There is also a huge amount of fun to be had when engaging with other like-minded aviators.

Our National Championships are held from 26th February to 1st March 2020, at Hood Aerodrome. See [www.aerobatics.co.nz](http://www.aerobatics.co.nz) for more information and if you have any queries please do not hesitate to contact me: [torque\\_roll@hotmail.com](mailto:torque_roll@hotmail.com)

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Andrew Love in his newly restored Pitts Special.



Steve Geard gets airborne in the Yak 55M.



Ryan Southam flew a spectacular sequence in the Tiger.



Mark O'Sullivan heads out for his freestyle slot.



Mark also flew this Tiger Moth during the vintage section.



The Robin from the Canterbury Aero Club.



Aaron Patchett gives an aerobatic intro flight.

Gavin Conroy images





Lachie Falconer leads this formation in his Yak 52. Joining up on him was Ivan Krippner in the Pitts, and Grant Benns in the Zlin.



Pictured with trophies and certificates are: 1. Primary - Alexandra Watson, Iain McPhail & Sarah Ross. 2. Intermediate - David Cranna, Andrew Love & Grant Benns, 3. Sportsman - Ian Young, Grant Benns & Lachlan Falconer, 4. Recreational - Mike Lagunowich, Jason Smith & Austin Jones, 5. 4min Free - David Cranna, Ivan Krippner & Andy Love

### Akro Fest 5 Results

#### Primary

1 <sup>st</sup> Iain McPhail, Alpha 2160a	81.2%
2 <sup>nd</sup> Sarah Ross, Alpha 2160a	78.5%
3 <sup>rd</sup> Alexandra Watson, Alpha 2160a	75.4%

#### Intermediate

1 <sup>st</sup> Andrew Love, Pitts S-1S	84.4%
2 <sup>nd</sup> Grant Benns, Zlin Z50	84.2%
3 <sup>rd</sup> David Cranna, Zlin Z50	82.0%

#### Sportsman

1 <sup>st</sup> Grant Benns, RV7	83.1%
2 <sup>nd</sup> Lachlan Falconer, Yak 52	81.9%
3 <sup>rd</sup> Ian Young, Pitts S-1S	81.3%

#### Recreational

1 <sup>st</sup> Jason Smith, Alpha 2160a	79.0%
2 <sup>nd</sup> Austin Jones, Alpha 2160a	76.7%
3 <sup>rd</sup> Mike Lagunowich, Alpha 2160a	34.2%

#### Vintage

1 <sup>st</sup> Ryan Southam, DH-82a	87.5%
2 <sup>nd</sup> Mark O'Sullivan, DH-82a	82.2%
3 <sup>rd</sup> Wayne Tantrum, DH-82a	81.0%

#### Four Minute Free Style

1 <sup>st</sup> Ivan Krippner, Pitts S-1
2 <sup>nd</sup> Andy Love Pitts, S-1S
3 <sup>rd</sup> David Cranna, Zlin Z50

**Recreational Unknown** – Austin Jones, Alpha 2160a

#### Advanced

1 <sup>st</sup> Ivan Krippner, Pitts S-1	73.4%
2 <sup>nd</sup> Morris Tull, Pitts S-1S	65.5%

#### 160hp Challenge

1 <sup>st</sup> Jason Smith
2 <sup>nd</sup> Iain McPhail
3 <sup>rd</sup> Sarah Ross

**Best Newcomer** – Sarah Ross

**People's Choice** – Steve Geard, Yak 55M

**Most Improved** – Jason Smith

**Rangitata Island Trophy** – Ryan Southam, DH82a

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Craig Fullerton circuiting Dannevirke in his Bensen B-8M gyrocopter.

# Autogyros gather at Dannevirke

Every year on Auckland Anniversary weekend, members of the NZ autogyro community gather for their national association's fly-in and AGM at Dannevirke. The weekend is something of an institution for many club members who have been attending for decades – it's non-negotiable time away from home, spent in the company of like-minded aviation enthusiasts.

**Arrivals** commenced on Friday with some choosing to camp at the field and others dispersing to local motels. In the early days of the club – several decades ago – home built aircraft typically of the Bensen variety, arrived on trailers to be flown in circuits or simply ground-hopped along the strip during flight training (before the days of two seat gyros, one learned to fly with the instruction book in one hand

and the stick in the other – well nearly anyway). Nowadays of course, modern two seat gyros abound – many fully enclosed – and are flown in from all over the country, the furthest flown this year being all the way from Parakai. In recent years, the proliferation of these types has arguably dominated the scene, certainly in terms of new arrivals on the register.

At Dannevirke this year however,

there was a new 'old' arrival which harked back to the earlier days. Craig Fullerton brought his Bensen B-8M, recently dusted off after ten or so years of shed-bound dormancy. Craig and the gyro's history date back to the 1980s. In fact your KiwiFlyer Editor and Craig spent some time reminiscing about the time Craig invited me to watch him flying at Muriwai when we were both at Engineering School circa 1988. Back then his gyro was powered by the original Bensen spec McCulloch two-stroke drone engine, a powerplant that was loud and reputedly unreliable in equal measures, having been designed for very limited military life requirements. They had character though. Some time back Craig repowered with Rotax, improving both reliability and the aircraft's neighbour friendly characteristics. Ironically, several at Dannevirke were now encouraging Craig to reinstall the old McCulloch, restoring the aircraft to 'classic' status in the process. Craig's gyro brought back fond memories for all of the more senior club members and provided a great insight for newer members as to how it 'used to be' when simplicity was the thing – no brakes, no pre-rotator and nearly no instruments; just an engine, prop, rotorblades, a seat, and the fun of flying. After some re-familiarisation hops, Craig enjoyed numerous circuits of Dannevirke and subsequently received the club's most significant annual award, the Man and Machine trophy. Congratulations Craig.

A mainstay of the association's annual Dannevirke fly-in has become the annual fly-out to Athol and Betty Sowry's strip at their farm near Woodville. The scones were as good as always, and enjoyed by several fixed-wing visitors as well. Thanks again to Athol and Betty for your hospitality which is always looked forward to as a fixture of the weekend.

The weather throughout was beautifully sunny, and windy (it is Dannevirke) but mostly down the strip, allowing for plenty of time spent playing by experienced pilots and practicing by newer ones. The camaraderie was, as always, excellent and everyone looks forward to meeting again next year. Anyone curious about gyros should tag it in their calendar and come for a look, bearing in mind the very real risk of going home wanting to own one.

Michael Norton 



Neil Hintz and Dominator REG on approach to NZDV.



Tony Unwin and Kallithea lifting off for Athbey Farm.



President Bruce Anderson and Magni Orion arriving.



Mike O'Rourke and MTO3 Eagle vacating Athbey Farm.

## Event Guide

February 21<sup>st</sup> - 23<sup>rd</sup>  
**Art/Aero Deco at Napier**  
 The Napier Aero Club welcomes private and club aircraft flying into Hawke's Bay Airport for Aero Deco, part of Napier's Art Deco Festival. Contact Graham on 021 499 208 with early advice if you plan to attend.

February 29<sup>th</sup>  
**Country Market & Fly-in at Te Kowhai**  
 Food, arts & crafts, vintage cars, aeroplanes, helicopters. Pilot brewery licensed bar, complimentary drink & snack at pilots' VIP lounge. Contact Pete Lourie 027 666 6637 or pete@nzte.net.nz

March 13<sup>th</sup> - 15<sup>th</sup>  
**Tiger Moth Club Fly-in/AGM Ashburton**  
 Annual summer fly-in, competitions, dinner and AGM. Preceded by extensive Vintage Air Tour. Contact Graeme Wood 027 293 2318 or ruffchops@gmail.com

March 15<sup>th</sup>  
**Warbirds on Parade at Ardmore**  
 NZ Warbirds Association Open Day with three extensive flying displays throughout the day. All local warbirds plus Grumman Avenger and Yak 3 attending. See News Briefs of this issue for more information.

March 15<sup>th</sup>  
**Turangi Aero Club Fly-In**  
 BBQ lunch and drink for \$15. No landing fees. Contact Alan: xpdxrd@gmail.com

March 21<sup>st</sup>  
**Ruatoria Aero Club 60th Birthday**  
 Contact Mahanga Maru 021 2200 737 or Dan Russell dan@laidback.co.nz

April 10<sup>th</sup> - 12<sup>th</sup>  
**Warbirds Over Wanaka Air Show**  
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Ben Girven image

Sunrise dawns on another great day of aviation at Matamata Aerodrom during the 54<sup>th</sup> Walsh Memorial Scout Flying School 2020.

# Walsh Memorial Scout Flying School

## An ab-initio student's perspective

The Walsh Memorial Scout Flying School has been a fixture of the aviation calendar at Matamata Aerodrome for decades. This year was the 54<sup>th</sup> school which sees first solos achieved by dozens of young ab-initio aviators who enjoy two weeks of intense aviation training from highly qualified volunteer instructors. One of the star pupils this year was Ben Girven, who kindly put this report together for KiviFlyer readers. Ben writes:

**The** Walsh Memorial Scout Flying School is an incredible course run at Matamata Aerodrome in the Waikato, where for two weeks teenagers come together to share in the common interest of aviation. While many students upon arrival are untrained and merely beginners, throughout the course they are shaped and molded through the guidance and tuition of instructors into experienced, confident aviators - many with the desire to pursue aviation as a

career in the future.

I'm here to talk about my experience at the Walsh. I have always been interested in aviation and had my sights set on being a pilot ever since I was young. Knowing what I wanted to do, it was pretty much just a case of asking where do I start and what do I do first? It wasn't long before I heard about the Walsh Memorial Scout Flying School through my local scout troop. It seemed impossible and extremely daunting, that in a few short years I could be flying a plane solo. I think I had this feeling in me right up to the beginning of the school, however the desire I had to succeed and accomplish this long-standing goal definitely helped push me forward to give it a go.

I was a bit nervous arriving at the school on the first day and saying goodbye to my family, and getting to know the others around me - but having a group of likeminded, friendly peers and flight leaders around to talk to in my 'Flight'

took a lot of pressure off (go Flight 4). 'Flights' are the special group of people we were initially assigned to do our camp duties with and pitch our tents next to, and the people we generally got to know first. In the first few days we had many briefs, ranging from how to do a pre-flight, to taxiing, turning and the effects of controls, with fire rescue and medical thrown in as well. Obviously the complexity of the briefs increased as time went on. Being able to go out and fly so soon after the briefs with the knowledge fresh in our minds made retaining the information and putting it into practice very easy.

The first flight I did at the Walsh was 'effects of controls'. Getting up in the air for the first time was a surreal feeling. Soaring above the fields and farms and houses was pretty much what I loved the most, in addition to the people I was lucky enough to get to know. It was definitely a busy schedule and at times a



The Walsh Aviation Support Society's Piper Tomahawk.



All eyes to the front at the welcome briefing.



Students learning about pre-flight checks.



A traditional first solo dunking.



Odette Sullivan-Yates receives the Walsh Trophy from David Saunders, Capt. David Morgan & John Mounce.



54th Walsh Memorial Scout Flying School  
08 - 22 January 2020



Walsh 2020 Flight 4. Ben Girven is second from right.

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bit stressful but it was all worth it when you realise how far you have come in such a short time. I went from a point where I was nervous to taxi out to the runway to where I was flying circuits with guidance but minimal input from my instructor.

The balance of in-class lectures and actual flying was very good and well thought out and helped to keep people engaged and focused throughout the programme.

One of the most important things I took out of this experience was the life lessons I learnt; the school showed me and my peers that when we put our minds to a goal that we can achieve it, even when it sounded so crazy to us - like flying solo in a matter of days. For a number of people I also believe it teaches a new level of maturity and independence, myself included.

I achieved my solo on my ninth day at the camp. It was getting to the evening and just as the sun was setting. On my third circuit my instructor decided I was ready. He took the controls just before I took off on a touch and go and pulled us to the side. As nervous as I was, I think that I felt ready as well. Seeing the sun streak across the beautiful country landscape in amazing shades of yellow, orange and red, producing huge shadows across the fields was something that I'll never forget, and I'm sure that none of the other students will ever forget their experience either. A matter of minutes and one circuit later it was over. All of my hard work paid off. It felt incredible. This of course would not have been possible without my wonderful instructor Grant Reidy, a 787 pilot for Air

New Zealand. I am so grateful for the effort put in by Grant and all the other amazing instructors. Especially how they put up with our mistakes - like radio call mishaps, forgetting checks and much more - and how despite this they always seemed enthusiastic to help and tutor us the whole way through.


The best surprise by far that I was unaware of going into the school was the chance to fly in some different aircraft visiting the school. One of the most amazing for me was flying in a Tiger Moth. Flying in an open cockpit aircraft in formation with other Tiger Moths made me feel like I was in a movie; the wind rushing through my hair and the outside world right there, looking directly down at the tiny people below felt incredible. There was also night flying above Matamata in a C172, flying in one of Massey's Diamonds, doing aerobatics in an Air Tourer and taking a ride in many other different aircraft. I came out of the Walsh having done so much more flying than I had first expected, in such a range of different aircraft. It was a dream come true and such a great taste of all the different things you can do in aviation.

At the school we were also fortunate enough to be able to participate in many different recreational activities. My favourites were the beach trip and the hot pools - there was nothing like taking a dip in one of the most beautiful beaches in the North Island on a hot summer's day and relaxing in the beautiful outdoor hot pools in Matamata to ease the mind and have a rest.

The Walsh Memorial Scout Flying

School would of course not have been possible if it weren't for the effort put in by the countless passionate and hardworking individuals who in some way make the school run like clockwork. This ranges from the kitchen staff who produced tasty meals without fault for the whole duration of the camp; the instructors whose hard efforts and patience allowed for most of the students to fly solo and if not have an amazing time anyway; Phill and his helpers in Flight Ops who did an excellent job in organising and keeping track of all the flying done; the kind people from Airways NZ and MetService ensuring our safety in the sky; and finally the people coordinating the school: Director John Hamilton, Deputy Director Nic Vanderschantz, Executive Officer David Jupp, Venturer leaders Gerald Carter and Natalie Watkin Ward, Scouts New Zealand and too many others to note. Special thanks too, to the dozens of sponsors of the school who provide all manner of awards to us students for which we are very grateful.

For anyone reading this thinking about going to the school as an instructor, student or helper, I strongly encourage you. It was an eye opening experience - I made lifelong friends, learnt a lot, and had some of the most fun I've ever had in the space of two weeks.

Ben Girven  
Instagram @bengphotos 

*Footnote: Ben was awarded one of several very significant Air NZ prizes at the Walsh this year, receiving \$4000 of flying plus a B787 sim ride and work experience on a Tasman trip.*

# 2020 First in the World Fly-in

**What** a unique opportunity this country offers, as where else could you hold the 'First in the World' Fly-In? New Year's Day 2020 saw this event held at Masterton's Hood Aerodrome and hosted by members of the recently renamed Wairarapa Aero Club.

A total of thirty-four aircraft flew in from around the country bringing their pilots and passengers to partake in lunch, while a small number drove to the Wairarapa airfield. As in previous years the variety of types that visited was again extensive, ranging from vintage aircraft to microlights, homebuilt and sport aircraft, and various "spam cans".

Prizes were presented following the consumption of lunch by the gathered attendees. The prize for the oldest pilot to fly in was presented to Ken McKee in his Tecnam P92 Echo Super ZK-KMA, while the youngest pilot was judged to be Reuben Hansen who flew Cessna 172P Skyhawk ZK-FGJ from Waipukurau. The other prize awarded was for the furthest travelled aircraft, with Phil Richards flying north from Rangiora in his Europa Classic ZK-MOF to take that honour. Ian Manderson of Whakatane was a close second in his Czech Aircraft Works Sportcruiser ZK-WGK.

Hopefully they didn't think Tiger Moth ZK-BEF would get a prize for the oldest aircraft to attend, as Jerry Chisum arrived later in his wife's Gipsy Moth!

Even now after three summers since the previous hosts Athol and Betty Sowry passed on the baton from holding this unique New Year's Day fly-in annually at their Athbey Farm airstrip near Woodville, the popularity of the day continues to be evident. Long may it remain as the best way to start the year's aeronautical activities!

The trustees associated with the fly-in are continuing to alternate hosting the event amongst several venues across the lower North Island. As such, the 16<sup>th</sup> annual lunchtime New Year's Day 'First in the World' Fly-In will be held on 1<sup>st</sup> January 2021 at Taonui Airfield near Feilding. I suggest you start planning now on attending this event. Get it into your diary and there won't be any excuse to miss it!

Phil Craig 



The RNZAF Black Falcons put on a full display.



Airways provided mobile ATC services for the event.



Students bring tents for accommodation.



Charlie Teariki receives the highest value award of the Walsh from Air NZ; \$10000 towards a PPL plus a B787 sim ride and work experience on a Tasman trip.



Ken McKee, the oldest pilot to fly in, in his Tecnam P92.



Furthest travelled was Europa ZK-MOF from Rangiora.



Second furthest distance flown was WGK from Whakatane.



Josh Flynn gets airborne for some aerobatics before lunch.



Tiger Moth ZK-BEF was the second oldest aircraft to attend.



Titan T-51 Mustang ZK-LSD from Whanganui.

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Chris Gee Image

The NZ Warbirds Roaring '40s Harvard Display Team in action

# Showtime for NZ Warbirds

It's busy times for NZ Warbirds pilots and helpers with the summer event season in full swing. Frank Parker provides an update of recent displays and more to come:

**With** summer weather in full swing its Air Show Season and NZ Warbirds has been active.

First date on the Calendar was the Mercury Bay Aero Club 'Fly-in' on December 28 which was attended by a number of Association aircraft including the Harvard Roaring '40s, Yak 52, Stearman, Chipmunk, and Miles Messenger on an 'outing'. Unfortunately encroaching urbanisation means the required 'Aviation Event' safety zones

cannot be achieved and this now precludes a full on air show at the venue.

The next event was the 'Tauranga City Airshow - Classics of the Sky' which has become a bi-annual regular. This is a popular event at a popular venue, its timing taking advantage of the holiday crowds. Warbirds attendance included P-51 Mustang, P-40 Kittyhawk, Roaring

'40s and Doug Brooker in his aerobatic MXS. Along with the Tauranga based aircraft and a few novelty acts including 'Truck vs. Helicopter' and 'Snake (well an AC Cobra) vs Helicopter' this was a full afternoon programme. The weather was a scorcher which brought out a good crowd so a successful day for the organisers.

Close on the heels of Tauranga was the Hauraki Aero Club Wings and Wheels day at Thames. NZ Warbirds assisted the club to arrange and authorise the 'wings' side of this event which included a three hour flying programme. Warbirds participation included displays by the Roaring '40s, P-40 Kittyhawk, Harvard solo, Beaver and once again Doug Brooker in the MXS. The local car club had a ground display with a good number of exotic vehicles out 'sunning' themselves in another lovely summer day. Wherever possible, Warbirds attempts to support these small events and in this case the aircraft owners donated their participation to assist the Aero Club to run the day and hopefully make it a regular event. This was rewarded with a good crowd and local enthusiasm to do it again, QED.

That was January. Coming up in February the big event is Art Deco at Napier. This is a regular event for the (you guessed it) Roaring '40s. As previously mentioned in these columns this is one of my favourite events, a (reasonably) relaxing weekend, old cars, friends and conviviality; what more could you need!

On Sunday March 15 Warbirds is holding our own 'Warbirds on Parade' Open Day at Ardmore. This has traditionally been held in June and we have often been dogged by unfavourable weather. This year we have brought the date forward to take advantage of better weather and longer daylight hours. Planning for the day is well underway; it will follow the established pattern of three flying slots which enables other operators at the airfield to continue flying. The programme is shaping up well and we have confirmed a number of 'imported acts' for the day which is being promoted on Facebook etc. As an adjunct to the Open Day we are holding a 'Rides Day' on Saturday the 14<sup>th</sup> where we have Harvards, Fighters and other aircraft available for flights.

All this is a prelude to the big one, Warbirds Over Wanaka. We have a good number of Association aircraft booked for the event which once again promises to live up to its reputation of being the premier show 'Down Under'. I for one can't wait.

Regards, Frankly@xtra.co.nz



Miles Messenger at Whitianga for the Mercury Bay Aero Club Open Day



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# A note from the 'I learnt about flying from that' file

One of your KiwiFlyer Editor's mandates has always been "never be in a hurry to go for a fly". In other words, preparation of self and aircraft should be a calm endeavour offering maximum opportunity to correctly do all the things that should be done before heading skywards. The following article from John Baynes offers some considered advice especially for recreational summer aviators. John's introduction started with "always leave time for yourself". That sounded familiar. His other thoughts are equally relevant.

**Now** that summer is here, the annual warnings to get your act sorted before taking enthusiastically to the air become very relevant. Currency and aircraft preparation are paramount of course but what about the Human Factors? Some awareness here may help avoid the traps that are constantly being set by circumstances, conditions, or other people.

The difficulty is that any defence system that guards against human factor shortcomings is largely dependent upon input from the individual in question. It's a Catch 22. Here are some of the thoughts that I try to keep front of mind at this time of the year when indulging in recreational aviation.

## Always leave time for yourself

I received some excellent advice given by an experienced instructor specialising in flying and giving training (in modern times) in WWII fighter aircraft. The message is don't stuff it up because you have ended up in a rush personally. As an example, a display pilot needs to bring their 'A' game' to the airport and their time is well organised to support this. Contrast this scenario with the pilot about to pull 'Old Faithfull' out and tear off on a jaunt with their mate. With the very best of intentions, it's quite possible to take the flight a bit lightly. Also, the private flight pilot will probably have made all the arrangements, done all the preparations and pre-flight work and all the heaving and tugging themselves. They may also be busy in life in general. If time seems tight, is a trap being set? Have you missed anything? Is the weather still as expected? Have you done your sums correctly?

## Am I fit and safe to fly?

Who's going to ask that question? Who's going to answer it? It's a personal interrogation. It's an easy enough question to answer before setting off for the airport. If the first answer is yes, can that

then change before the flight? Most pilots are usually pretty good to go when they arrive at the aeroplane. But what often goes wrong is an unexpected stressor that causes the pilot to become annoyed or flustered when at the airport. Examples could be a late passenger or a family member behaving badly at home. Maybe some factor causes the pilot to be behind the desired time schedule and the weather is closing in. Maybe vital gear was left at home. Is the pilot rattled? Yes. Will they now ground themselves and cancel the flight? Probably not. So, unless the pilot takes (even more) time to settle themselves appropriately, the trap is set. It now only takes a moment's inattention that misses a vital detail or check and the trap springs.

## Trust

Whenever we leave the ground, it's as a result of having a lot of trust in a lot of different things and people. Some things are totally trustworthy, gravity for one. Most people aim to be trustworthy but as humans, we are all flawed. The trick is to have systems in place that prevent mistakes from going un-noticed by someone else. Aviation regulators recognised this a century ago and those systems continue to evolve and be supported by the industry. But you alone will be providing the final checks of yourself and the aircraft before flight and your passengers have put their trust in you. Are you following the rules (before and during flight) and is that trust well placed?

A human factor comes into play when someone has an inflated opinion about their own capabilities that causes them to operate in a manner that is contrary to the rules or normal behaviour of their peers. Don't let that be you. In aviation, the wise person adheres to good protocols in the certain knowledge that they have been formulated by the experience of others over many decades. Trust the established rules, they support the wise.

## Being a cool dude

Being on top of your game, highly trained or just bursting with enthusiasm are all great attributes, no matter your age. So, what's the catch? Confidence makes us perform well, make quick decisions and be physically well coordinated. We are likely to fly well. The catch is overconfidence when coupled with lack of currency.

Being cool (or trying to be which is more to the point) is a different matter. It comes into the human factors envelope because of the problems it can cause. Is it really a good idea to do that

manoeuvre, fly that low, etc? Radio use is also a good example. How often do we hear someone drawl out an inaudible message that only they can understand or rattle it off like a machine gun just to go through the motions of a position report? They're showing the world how mundane they find the broadcast because they do this lots and know exactly what to say and it's all pretty boring if you're a cool dude. But the situational awareness of other pilots is hugely important so please broadcast with thought for the other pilots who need the information. How come ATC don't often have poor diction? It's because as professional communicators they know the importance of their message's clarity.

The flipside of being a cool dude is the under-confident person or the pilot unprepared to broadcast on the radio because of worrying about their lack of eloquence. Don't worry about being uncool (we've all been there). A bit of pre-thinking about what the transmission is expected to achieve will be a big help – before you key the mic. Then just do it smoothly and clearly and be concise.

## Fatigue


We know when we're tired out and jaded. We know when we've had a late night or slept poorly. We know when the day has been a long one. These things affect us physically and are easily noticed. The drop off in mental performance is not so immediately noticeable but at some point, there is a likelihood that a glitch will happen due to an oversight, inattention or misunderstanding. Mental tiredness is not conducive to aviation safety. An obliging person, keen to go the extra mile, will often be slowly put under incremental pressure that builds up. The trap is set. Have a culture within you that resists the temptation to over-do things instead of catching some rest or saying no. An example could be staying

out late with excellent friends but knowing tomorrow is a flying day. Don't be dragged into a high energy scenario by a much more energetic person than you are, if you find it stressful. The effects of mental tiredness are subtle and probably not even noticeable until there's been a mistake and you ask yourself "how did I manage to miss or do that?"

In my view fatigue doesn't get the heat that it deserves. We get trained ad infinitum in stall recovery 3000 feet above the ground but not enough regarding how a little dullness will undo us with disastrous consequences in simple operations say on the ground or just joining the circuit. Going back to the stall avoidance - do pilots stall mostly from lack of training or lack of mental acuity?

## Practise a little

On the subject of training, it's a fact that the best pilots keep themselves sharp by flying frequently. Sometimes though, for less current flyers, time and life's demands stop that from happening until it's holiday time. There's a quick and cheap way to keep ahead of rustiness, keeping the mind clear and focused, all the while whetting the appetite for some more serious flight. It supports the subconscious and keeps the perceptions calibrated. Go fly some really accurate circuits. If possible, include less than ideal conditions. Circuits may not push the boundaries for the experienced pilot but if that pilot demands perfection, and honestly self appraises, it's a good way to stay sharp and also checks out the aircraft. Why not do those few circuits a bit more regularly, certainly in the lead-up to summer? I can always tell if I'm out of the groove – cue banging my head opening the hangar door even before getting to the flying bit! Take care out there this summer and enjoy many happy landings.

John Baynes 

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**ZK-SAM BRM Aero NG5**



When I asked Stuart Reid about his new BRM Aero Bristell he replied enthusiastically "just loving it!" Stuart has been flying for about 20 years having logged 1000 hours in Bantams and 1000 hours in his Tecnam Golf, but he decided it was time for a new plane. As he is now 74, he wanted a new aeroplane that he would be able to fly for the next ten years which would then have resale appeal. After going flying with Martin Henton of Anderson Aviation NZ Ltd, the agents for Bristell aircraft in New Zealand, he was sold. He liked the way the Bristell flew and the large and roomy cockpit suited his tall build.

Stuart ordered his plane from BRM AERO Ltd of the Czech Republic in March 2019 and it arrived 8 months later. Designed by Milan Bristela, the aluminium bodied BRM Aero Bristell NG 5 offers side-by-side seating and Rotax power in either the microlight or light sport categories.

The aircraft is supplied ready-to-fly. There are two versions; one with 9.1m long wings which Martin flies and the other with 8.1m long wings which Stuart has - as it fits his hangar better and is "a

bit easier to fly as the longer wing version can tend to float". Powered with a 100hp Rotax 912 engine and fitted with a three-blade hydraulic constant speed propeller, Stuart selects fine pitch to take off out of his 450m strip and then can adjust to cruising pitch to achieve a cruise speed of 112-114 kts using 19-20 litres per hour.

When Stuart's Bristell arrived, it was painted factory silver - as requested - because Stuart wanted to add a very particular and striking maroon colour, outlined in black, to most of the plane - adding to the sleekness. Having completed his rating at time of writing Stuart has now logged 4 hours flying on his new aircraft and is loving every minute of it.

**ZK-CDZ ICP Savannah S**



Two new Savannahs appear on the registration list this time, being ZK-CJV owned by R Gibbs of Hamilton and ZK-CDZ owned by Mark Berger of Cust. I spoke to Mark about his.

Getting close to retirement Mark decided he needed a plane that he could fly up into the mountains to go hunting, a plane that had the ability of landing in short strips and on rough ground. He felt that a Zenith 701 would be the

right plane for the job until David Leath convinced him that a Savannah would be better.

The ICP Savannah is a high wing, single engine, microlight with side-by-side seating for two produced in Italy by ICP srl. After contacting Phillip Seale, the NZ agent, Mark spent some time working with another Savannah builder and very soon had ordered a kit of his own. After converting a shed on his property for the purpose, construction started. As this was the first plane that Mark had built there was a lot of learning along the way, but he was helped by Tony DenHaan, Phillip and a few others. Once the fuselage, tail plane and wings were completed Mark installed the Rotax 912 engine and then the fuselage went to Canterbury Avionics to have all the wiring installed. Mark has made a few changes, shifting the seat back and removing some of the padding in the seat back to allow more room in the cockpit, and fitting 18" pillow tyres for those rough strip landings. He has also added a fixed cylinder tube in the inside of the fuse to safely contain his hunting rifle. The plane then went to Phillip's for the final assembly and the painting was also completed there by Jamie. The colour scheme on Mark's Savannah is a tribute to the original Fletcher ZK-CDZ. Mark and his brother spent hours on their parent's farm watching the Fletchers from Thames Aerial Topdressing working. This started his passion for aviation and so when deciding on the colour scheme for his own aircraft he copied the Fletcher's off white, orange and black scheme.

Test flying has been completed by Tony

**ARRIVALS - November / December 2019**

CDZ	ICP Savannah S	Mr M A Berger
CHT	Chilton D.W.1	Mr J M Gray
CJV	ICP Savannah S	Mr R Gibbs
DOY	Tecnam P2002 Sierra	Wairarapa Aero Club Incorporated
DRV	Vans RV-7A	Mr D G Horn
DZH	Cessna T206H	Air Auckland Limited
EAV	Cessna 208	Evander Aviation Limited
EPH	Pacific Aerospace 750XL	Pacific Aerospace Limited
EWZ	Cessna 172S	Ardmore Flying School Ltd
FDS	Beech B200C	GCH Aviation Limited
HKU	Sikorsky EH-60A	Kahu NZ Limited
IEX	Eurocopter EC 130 B4	Airwork (NZ) Limited
IFL	MBB MBB-BK117 B-2	Airwork (NZ) Limited
JPU	Just Aircraft Highlander	Mr P G Hicks
JTK	Cessna T206H	Glenorchy Air Services & Tourist Co.
LAH	Rans S-14 Airaile	East Canterbury Aviation Limited
LKA	R & B Bearhawk	Plane Torque Limited
MET	Ultramagic N-250	Mr T G Church
MJL	Rockwell 114	Hawkins Partnership
MOT	Air Tractor AT-402B	Motunua Ag Air Limited
MUT	NZ Aerospace FU24-954	M Hargreaves Limited
MZB	ATR-GIE ATR 72-212A	Mount Cook Airline Ltd
MZC	ATR-GIE ATR 72-212A	Air New Zealand Ltd
MZD	ATR-GIE ATR 72-212A	Air New Zealand Ltd
NAU	Cessna 152	Nelson Aviation College Ltd
NHD	Airbus A320-271N	Air New Zealand Ltd
PCH	Vans RV-6A	Mr P C Hunt
PLB	Pilatus PC-12/47	Sounds Air Travel and Tourism Ltd
PMJ	Beech B200	Air Wanganui Commuter Limited
SAM	BRM Aero NG5	Mr S E Reid
SLI	Maule M-7235	Southlink International Limited
SSW	Carl Swanson Fokker DIV (Replica)	NZ Warbirds Assoc. Inc.
TLM	Boeing 737-42C	Airwork Flight Operations Limited
TOE	Cessna 152	Air Hawkes Bay Limited
TTC	Diamond DA 40	NR Aviation Limited
UTE	Piper PA-46-500TP	Andy Stevenson Aviation Limited

**TRANSFERS - November / December 2019**

AQB	De Havilland DH 83C Fox Moth	Tyrrell Family Trust
BEM	Ryan ST-M S2	New Zealand Warbirds Assoc. Inc.
BLU	Andrews A1	Mr A B Ingrosso
BRY	Piper PA-18A-150	Private Owner
BSW	Taylorcraft BC12-D	Mr R P Yates
BUC	Gardan GY-20 Minicab U/L	Private Owner
BVF	Champion 7EC	Mr J D Thompson
CFB	Bowers Fly Baby U/L	Mr A J Hay
CJP	Jabiru ULT	Mr J T Rika
CKT	Cessna 185D	Mr S A Jones
CQC	Draine Turbulent U/L	G S & G A Smith
CXV	Draine Turbulent U/L	Mr D K Hemingway-Mills
DAZ	Cessna 172L	DAZ Syndicate
DDL	Tecnam P2004 Bravo UL	Mr D L Ainslie
DEX	Cessna 172N	Mr P C Gurr
DGR	Airborne XTS-912	Mr R A Bargent
DHV	Cessna 172M	Mrs K V Krippner
DNF	AESL Airtourer T3A	Marlborough Aero Club (Inc)
DUH	Ibis Magic GS-700	Mr A J Hay
DVR	J T Grant Albatross D5 U/L Replica	Mr K D Henderson
DWX	Cessna U206F	Eltec Forestry NZ Limited
DXI	Piper PA-28-161	DXI Limited
EDY	Zenair CH701 STOL	Mr F E Barker
EJU	Cessna 172N	Air Auckland Limited
ELF	Cessna 172N	Palu Aviation Services NZ Limited
FEL	Piper PA-28-180	Mrs K V Krippner
FJB	Cessna 172M	U-Fly New Zealand Limited
GHY	Schempp-Hirth Standard Cirrus	Mr G J Levitt
GUS	Schempp-Hirth Arcus T	GUS Syndicate
HAV	Robinson R22 Beta	Rotorworx (N.Z.) Limited
HBQ	Eurocopter AS 350 B2	North Shore Helicopters Limited
HCZ	Eurocopter AS 350 BA	A A McFarlane Family Trust
HEB	Robinson R22 Beta	Mid West Helicopters (NZ) Limited
HGD	Bell 206B	Helicopter Charters Limited
HGJ	Schweizer 269C	Mr R M Hill
HGR	Eurocopter AS 350 B3	Aspiring Helicopters Limited
HGR	Eurocopter AS 350 B3	Heli Support International Limited
HIV	Canadian Home Rotors Safari	Cloud 7 Aviation Limited
HML	Aerospatiale AS 355 F1	Action Helicopters Limited
HNL	Eurocopter AS 350 B2	Heli Sika Limited
HRA	Hughes 369FF	Helilink Limited
HSD	Hughes 369D	Southern Heli Lift Limited
HVX	Robinson R44 II	Mr A J Macdonald
HZV	Robinson R22 Beta	Robert Lee Clark Limited
ICR	Eurocopter AS 350 B2	Wanaka Helicopters Limited
IDI	Eurocopter AS 350 B2	Gisborne Helicopters Limited
IET	McDonnell Douglas 500N	Oceania Aviation Limited
IEV	Eurocopter AS 350 BA	Inflite Ski Planes Limited
IEY	Eurocopter AS 350 BA	Inflite Ski Planes Limited
ILW	Eurocopter AS 350 BA	Fox Franz Heliservices Limited
IOC	Eurocopter EC 120 B	Tasman Helicopters 2015 Limited
IYN	MD Helicopters MD900	Highland Helicopters Limited
IZI	Eurocopter EC 130 B4	Heletranz Limited
JGA	Piper PA-31	Computer Automation Products
JIG	Socata TB 10	Mrs K G Haigh
JMG	Cessna 172S	Classic Flights Limited
JTA	Aeroprakt A-22	Private Owner
JWH	Cessna T206H	E G Balle Holdings Limited
KAA	Titan Tornado II	Mr P C Weaver
KMH	Cessna TU206G	Skydiving Kiwis Limited
LDY	Cirrus Design SR22	ZK-LDY Limited
LNU	Cessna 172R	Oceania Aviation Limited

Continued on next page...

Cust	Rangiora	Microlight Class 2
	Hamilton	Microlight Class 1
	Masterton	Microlight Class 2
	Te Aroha	Aeroplane
	Auckland	Amat Built Aeroplane
	Wellington	Aeroplane
	Hamilton	Aeroplane
	Papakura	Aeroplane
	Christchurch	Aeroplane
	Whakatane	Helicopter
	Papakura	Helicopter
	Papakura	Helicopter
	Pouanui	Microlight Class 2
	Queenstown	Aeroplane
	Temuka	Microlight Class 1
	Havelock North	Amat Built Aeroplane
	Methven	Balloon
	Pictou	Aeroplane
	Greta Valley	Aeroplane
	Maungaturoto	Aeroplane
	Christchurch	Aeroplane
	Auckland	Aeroplane
	Auckland	Aeroplane
	Motueka	Aeroplane
	Auckland	Aeroplane
	Manukau	Amat Built Aeroplane
	Blenheim	Aeroplane
	Wanganui	Aeroplane
	Ohaupo	Microlight Class 2
	Christchurch	Aeroplane
	Papakura	Amat Built Aeroplane
	Auckland	Aeroplane
	Hastings	Aeroplane
	Gisborne	Aeroplane
	Gisborne	Aeroplane

New Plymouth	Aeroplane
Papakura	Aeroplane
Christchurch	Amat Built Aeroplane

Rolleston	Aeroplane
Palmerston North	Aeroplane
Christchurch	Microlight Class 1
Rotorua	Microlight Class 2
Ohope	Aeroplane
Albany	Microlight Class 1
Christchurch	Microlight Class 1
Auckland	Aeroplane
Arrowtown	Microlight Class 2
Blenheim	Aeroplane
Rolleston	Microlight Class 2
Te Anau	Aeroplane
Blenheim	Aeroplane
Christchurch	Microlight Class 2
Outram	Microlight Class 1
Cambridge	Aeroplane
Silverdale	Aeroplane
Christchurch	Microlight Class 2
Auckland	Aeroplane
Tonga	Aeroplane
Te Anau	Aeroplane
Wanaka	Aeroplane
Australia	Glider
Wellington	Power Glider
Wanaka	Helicopter
Auckland	Helicopter
Christchurch	Helicopter
Whanganui	Helicopter
Whangaparaoa	Helicopter
Oxford	Helicopter
Wanaka	Helicopter
Wanaka	Helicopter
Ruakaka	Amat Built Helicopter
Queenstown	Helicopter
Taupo	Helicopter
Papakura	Helicopter
Mosgiel	Helicopter
Christchurch	Helicopter
Whakatane	Helicopter
Wanaka	Helicopter
Gisborne	Helicopter
Papakura	Helicopter
Auckland	Helicopter
Auckland	Helicopter
Franz Josef Glacier	Helicopter
Motueka	Helicopter
Dunedin	Helicopter
Auckland	Helicopter
Auckland	Aeroplane
Taupo	Aeroplane
Wanaka	Aeroplane

Waiuku	Aeroplane
Papakura	Microlight Class 2
Christchurch	Microlight Class 2
Paraparaumu	Aeroplane
Papakura	Aeroplane

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Den Haan and to date Mark has now logged 4 hours in his Savannah. He says it took a little adjusting to the lightness of the controls compared to the ATR that he is currently flying – and that he is really looking forward to going exploring up into the hills to find some of the old deer stalking strips.

**ZK-MOT Air Tractor AT-402B**



The ninth Air Tractor recently arrived in New Zealand (ex Australia) for Bill Birch of Motunau Ag Air Ltd in North Canterbury. The Air Tractor is the most popular Ag Topdressing aeroplane in the world. The Air Tractor AT-400 series is a family of agricultural aircraft that first flew in the United States on September 1979. Designed for efficiency by Air Tractor Inc. of Texas, the 51' wingspan and high-aspect ratio design lowers induced drag and increases wing efficiency. This design results in excellent spray coverage because of the strong down wash off the trailing edge. Of low-wing monoplane taildragger configuration, they have a chemical hopper between the engine firewall and the cockpit with a carrying capacity of one and a half tonnes. The cockpit is roomy, and visibility is excellent.

Bill's AT-402B Air Tractor is an improved version of the AT-402, with revised wingtips and the increased span of the AT-401B. While in Australia in 2007 it had a complete overhaul with new spars and panels being fitted, almost back to brand new. On arrival into New Zealand the PT6-15 680hp turbine engine was removed and sent to Pacific Turbine in Brisbane for an overhaul and was then re-installed over the Christmas period. On January 7th the CAA give it their stamp of approval. At time of writing MOT has been in the air and working well for the last two weeks.

Bill said it's a beautiful plane to fly "like a sports car in the sky", an ideal machine for a single operator. It offers excellent power, quick turn times, superior visibility, faster ferry speeds, ultra-quiet engine, shorter loaded take-off distances,

**...continued from previous page**

MAC	Evektor - Aerotechnik Sportstar Plus	Mr S J Lowther	Pukekohe	Aeroplane	
MBV	Piper PA-44-180	Moorabbin Aviation Services Pty Ltd	Australia	Aeroplane	
MCD	Britten-Norman BN2A-26	Colville Aviation Services Pty Ltd	Australia	Aeroplane	
MEE	Europa Europa XS UL	Mr P N Haslemore	Auckland	Microlight Class 2	
MHK	Quad City Challenger II	Mr A J Campbell	Tauranga	Microlight Class 2	
MLY	Cessna 172	Blenheim Cessna Syndicate	Blenheim	Aeroplane	
MUD	Nanchang CJ-6	Pukaki Airpark Lodge Limited	Timaru	Aeroplane	
MV5	Tecnam P2002 Sierra UL	McLeod Brothers Syndicate	Timaru	Microlight Class 2	
MXG	Eipper Quicksilver MX II	Mr M G D Brightwell	Hamilton	Microlight Class 2	
MYM	Beech B200	Skyline Aviation Limited	Napier	Aeroplane	
MZA	ATR-GIE ATR 72212A	Air New Zealand Ltd	Auckland	Aeroplane	
MZB	ATR-GIE ATR 72212A	Air New Zealand Ltd	Auckland	Aeroplane	
NOK	Cessna T206H	Classic Flights Limited	Wanaka	Aeroplane	
OMK	Cessna 172	Omaka Cessna Syndicate	Blenheim	Aeroplane	
PUG	Pitts S-1S	Mr A W Love	Blenheim	Aeroplane	
RCQ	Parsons/Reid GHR-T	Mr D J Wallace	Rolleston	Aeroplane	
RDY	AutoGyro Cavalon	Mr L V Green	Oamaru	Microlight Class 2	
RJZ	Cessna 525B	Tirohanga Holdings Limited	Christchurch	Gyroplane	
RNX	Cessna 172N	Auckland Seaplanes Limited	Wellington	Aeroplane	
RQY	Cessna 172R	Oceania Aviation Limited	Auckland	Aeroplane	
SDI	Stolp Starduster SA100 UL	Mr D J Lyon	Papakura	Aeroplane	
SIO	Zenair CH701 STOL	SIO Syndicate	Tauranga	Microlight Class 1	
TAD	Cessna 172R	Oceania Aviation Limited	Rangiora	Microlight Class 2	
TBJ	Tecnam P92 Tail Dragger UL	Waiofototo River Safaris Limited	Papakura	Aeroplane	
TXN	Fly Synthesis Texan Top Class	B & K O'Brien Family Trust	Haast	Microlight Class 2	
VPM	VPM VPM M16 Tandem Trainer	Mr M J Saunders	Snells Beach	Microlight Class 2	
ZAB	Cessna 172S	Ardmore Flying School Ltd	Paeroa	Gyroplane	
ZOT	Zenair Zodiac 601 UL	Mr D J Stuart	Papakura	Aeroplane	
			Foxton	Microlight Class 2	
CUX	Piper PA-28-140	Classic Flights Limited	Wanaka	Aeroplane	W/d
EKH	Cessna 172N	U-Fly New Zealand Limited	Wanaka	Aeroplane	Exp
HEF	Eurocopter AS 350 B3	Private Owner		Helicopter	Exp
HFS	Eurocopter AS 355 F2	Heletranz Limited	Auckland	Helicopter	Exp
HIE	Robinson R22 Beta	Tinui Downs Trust	Masterton	Helicopter	Exp
HIR	Hughes 369HS	Mr W R Hales	Hammer Springs	Helicopter	W/d
HJN	Robinson R44 II	Rotor Work Limited	Te Kuiti	Helicopter	Exp
HLG	Robinson R44	Western Pacific Helicopters Limited	Wanaka	Helicopter	Exp
HXI	Robinson R44	Western Pacific Helicopters Limited	Wanaka	Helicopter	Exp
IMD	Hughes 369E	Heli A1 Limited	Otorohanga	Helicopter	Exp
IWR	Robinson R44	Wild Animal Management Limited	Manapouri	Helicopter	Exp
IWT	Robinson R44	Western Pacific Helicopters Limited	Wanaka	Helicopter	Exp
JFM	Pacific Aerospace 750XL	Skydive Sweden AB Asplyckevegen	Sweden	Aeroplane	Exp
KAY	Pacific Aerospace 750XL	Northwest Parachute Centre	United Kingdom	Aeroplane	Exp
KEG	Pacific Aerospace 750XL	Pacific Aerospace Limited	Hamilton	Aeroplane	Exp
MCD	Britten-Norman BN2A-26	Colville Aviation Services Pty Ltd	Australia	Aeroplane	Exp
MCX	ATR-GIE ATR 72212A	Mount Cook Airline Ltd	Christchurch	Aeroplane	Exp
MJS	Micro Aviation B22 Bantam	Jaques/Turnbull	Kiwaka	Microlight C2	W/d
OJE	Airbus A320-232	Air New Zealand Ltd	Auckland	Aeroplane	Exp

faster climb and cruise speeds and wider spray patterns. Bill would like to mention Sounds Aero Maintenance from Blenheim for "doing an amazing job of keeping his aircraft running for many years".

**ZK-CHT Chilton D W I**



For John Gray, obtaining the plans he needed to build a Chilton aeroplane was a mission. This was because they are owned by the original designer's family trust. First, he tried calling Constance Ward, widow of the late co-designer but was told it would be impossible but to try Roy Nerou who held an agreement with the Ward Family Trust regarding said plans. John contacted Roy and was able to get permission to build a Chilton. In fact he says Roy couldn't have been more helpful with lots of information and photos and

answers to a lot of questions that John has asked over the last six years.

The Chilton Monoplane is probably the only aircraft to have been designed at De Havilland but not bear that Company's name. It was designed by two very bright young students whilst at the De Havilland Technical School. Both educated at Eton College, they were the Hon. Andrew Dalrymple born 10 May 1914 and Alexander Ward born 27 February 1915. Alexander was the son of Sir Hon. John Ward, whose father was the 1st Earl of Dudley, hence the type being given the initials D.W.I.

On leaving De Havilland, Ward and Dalrymple formed Chilton Aircraft, then persuaded their wood-working instructor at De Havilland, Fred Luscombe to come and work for them. Fred commenced work at Chilton Lodge in May 1936 and built a test wing and a mock-up of the forward fuselage before commencing work on the prototype which was registered G-AESZ in January 1937.

But back to John and his project: John started with a trailer load of Hemlock and began building the fin and rudder in the bedroom of their house, but this room quickly became quite small, so John built

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Instructor Category: D

**AIRCRAFT TYPES:**

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**XII RATINGS:**

Flight Radiotelephone Operator  
Instrument Rating: VOR ADF ILS PAR  
Instructor Category: B

**AIRCRAFT TYPES:**

AS-350, Bell 205, Bell 212, Bell 47, Cabri G2, Enstrom F28, Hiller OH12, Hughes 269, Hughes 369, Robinson R22

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a bench along one wall in the lounge. At this stage I must mention John's wife Maxine who was not only happy to have a plane being build in the lounge but fully supported John through the build. When the plane became too big for the house John rented hanger space at Rangiora airfield where he finished the project.

The Chilton is a tricky plane to build as it requires lots and lots of hours laminating wood together to create the curves. It has an elliptical wing, a very curvy fuse and quite rounded tail feathers. Most of the plane is covered in 1mm plywood making it very strong. It has a painted finish, bright red for the fuselage with cream for the wings and tail plane - and on the rudder is the number four as this will be the fourth Chilton to be built in the world. Even though John said it was a beast to build he thoroughly enjoyed all of it. Power for the Chilton is a 1830cc VW engine with a Roger Ward propeller. The testing phase has just begun with the ground running and taxi tests being done by Evan Belworthy who will also test fly it. John would like to make a special mention of Steve Noad of Aircraft Logistics Support limited and Read Engineering for their support.



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