

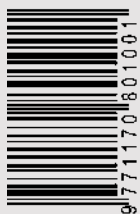
KiwiFlyer™

Magazine of the New Zealand Aviation Community

Issue 75 2021 #4

Restoring Spitfire TB252

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From the Editor

I recall a degree of excitement when we got to KiwiFlyer Issue 7 as that marked our first year of publishing. Sometime later, 20 issues was worthy of celebration then about five years further on, the pile on the bookshelf numbered 50 which seemed like a big deal at the time. To be honest, getting any issue to print feels like a bit of a big deal at the time. But here we are at number 75 and this feels worthy of celebration also. Shame it's in the middle of a Level 4 lockdown... The occasion however, is a good opportunity for some words of thanks to everyone who supports the magazine. First and foremost thank you to our readers for frequent kind words received and for your support of our advertisers. Without our advertisers, and there are many who have been in all 75 issues, we couldn't still send the magazine out free of charge to all aircraft operators and aviation businesses in New Zealand. I haven't kept count but the total will be well over 300,000 copies by now. So to our advertisers, my sincere appreciation. The biggest thanks however needs to go to our contributors who fill each issue with their enthusiasm for all things aviation. It's a pleasure to be able to share your words with our readership.

What's in this issue? Earlier this year another Avspecs restoration left our shores to join its overseas owner. Supermarine Spitfire Mk XVI TB252 is a very original aircraft and exhibits the usual outstanding workmanship of the Avspecs team. Gavin Conroy followed the long-term project and captured many excellent images.

A cornerstone of Safety Management Systems is Risk Management. For many, this might be a less than exciting topic, but Craig Anderson has applied risk management thinking to his passion for bush flying. In his words, "It's not about stopping the fun, just making sure the fun doesn't stop you." He shares plenty of wisdom for readers who enjoy indulging in off-field operations, or who might be thinking about it.

Returning to the 75 issues theme, Frank Parker takes a flight along memory lane, recollecting many of the articles he has contributed over the years. There are a lot of very good memories contained within.

All of our regular content is also included, as well as a guide to the pending NZ Aviation Conference, currently scheduled for the end of September in Wellington.

Enjoy this issue. Hopefully we'll all be back in the air soon.

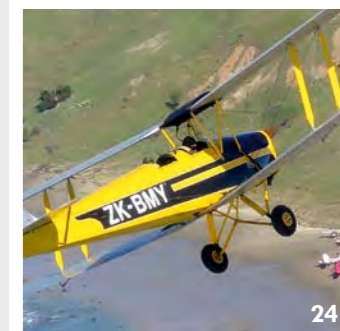
Michael Norton

Editor | Publisher
KiwiFlyer Magazine



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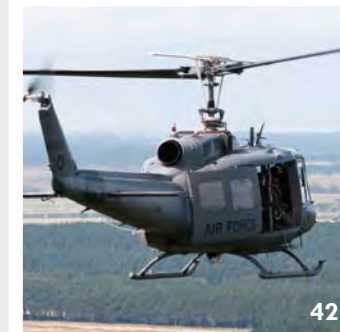
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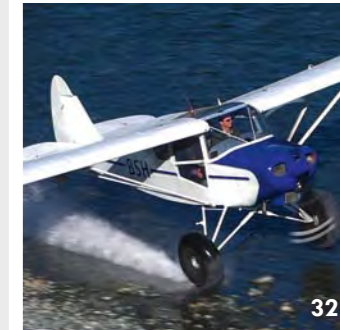
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John Lamont test flying Spitfire TB252, newly restored by Avspecs. Gavin Conroy took the photograph.

About Us

KiwiFlyer is for and about the New Zealand Aviation Community.

A printed copy is delivered free to every New Zealand aircraft operator and aviation business. The magazine is also on retail sale.

Back issues are available for free download from www.kiwiflyer.co.nz

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Thank you to our regular Contributors: Ruth Allanson, Bill Beard, Penny Belworthy, Grant Bennis, Gavin Conroy, Ciaran Doolin, Chris Gee, Jill McCaw, Frank Parker, Nick Ashley, Mark Woodhouse, and others.

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VNC chart books available again

As for the last two years AOPA NZ and Aeropath have once again combined resources to produce a Visual Navigation Chart (VNC) book from the digital charts created by Aeropath for CAA. For pilots, the advantage of this publication is its compact A4 lie-flat spiral-bound presentation which makes it much easier to use in the cockpit than fold out maps.

The 73 page publication includes 29 C series charts at a 1:250,000 scale featuring major airports centre of page. There is full coverage of the B series charts at a scale of 1:500,000 starting at the north and working south in series from west to east. Adjoining pages in all directions are clearly identified. There is a useful page 1 index for seeking out the correct charts, full listings of all chart legends and an NZ National FISCOM reference page.

The book has been a major success and AOPA will be releasing a new edition in early October with the latest updated charts (effective 2 December) plus various customer-inspired improvements.

The cost for non-AOPA members is \$93 excluding postage via www.aipshop.co.nz and for AOPA members is \$86 including postage via www.aopa.co.nz.

Have a Go at Aeros Mercer Airport October 8th - 10th

Get a taste, extend your skills or have a go at competition-style aerobatics during this event organised by the NZ Aerobatic Club at Mercer.

BYO plane or register to get airborne in various attending aircraft - Cessna Aerobat, Robin/Alpha 2160, Yak-52, Chipmunk, CT4, Vans RV7, Extra 330 and more.

Experienced instructors will be on-site over the three days, including Tim Marshall, Nic Rowe, Wayne Ormrod, Jason Alexander, Andrew Hope, Jason Drake, John Ashman, and Grant Bennis. Training material to assist with the understanding of the in-and-outs (and ups-and-downs) of competition aerobatics will be provided to registered attendees.

Hangarage and Avgas are now available at Mercer airfield and accommodation is available at Mercer Backpackers. Check out the NZ Aerobatic Club website and Facebook page for more info and how to register.

Wayne Ormrod gave your KiwiFlyer Editor an 'Unlimited' ride in his Extra 300 back in KiwiFlyer Issue 41 (download free from our website). It was soooooo

good. Do try an outside loop and tumble if you're bold enough. For more info email: mercerc@aerobatics.co.nz

HP Aviation Hoses offer new manufacturing services

NZ maintenance providers needing specialist aviation hoses manufactured can now turn to HP Aviation Hoses in Victoria for prompt service and delivery of their requirements.

This is a new venture founded by Jamie Hughes and Stephen Plummer when they heard that the only Aviation Hose Shop in the region was closing in July 2020. Understanding that the loss of hose manufacturing capability in the region would negatively affect all aerospace operators, they set out to start something new.

Jamie and Stephen teamed up with Kerry Barclay and his team to get back on the tools and open a brand new Aviation and Defence hose business, HP Aviation Hoses. The new team has over 75 years of combined experience manufacturing aviation hoses for customers across the region.

HP Aviation Hoses is located in a purpose-built workshop in Victoria. Jamie says they will deliver local hose manufacturing with the highest levels of customer support and technical pedigree, standing by their motto, 'Performance under pressure!'

Parker Aerospace have appointed HP Aviation Hoses as the region's exclusive provider of Stratoflex assemblies and products. The company is also the exclusive distributor of Stratoflex hoses in the Australasian market. Stratoflex has been the leading aviation and defence hose of choice in the region for over 20 years.

Jamie says the company brings Australasian customers "not only the quickest turn-around times from the region's only Aviation Hose manufacturer, but also the highest levels of customer support and technical knowledge to ensure their customers get the right part, right on time."

Contact Kerry Barclay or Stephen Plummer via sales@HPAviationHoses.com.au or visit HPAviationHoses.com.au for more information.

Liviu Avionics Location Change

Ardmore based Liviu - Avionics and Instrument Services have changed their airfield address from 1078 Harvard Lane to 140 De Havilland Lane.

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Women's Inspiration and Networking Symposium

One quarter of Massey's School of Aviation flight instructor team is female. Recently they formed a group called 'Massey University Women in Aviation', designed to motivate and encourage women to pursue careers in the aviation industry, particularly as pilots. In addition, the group - led by B-Category instructor Laura Draper - works hard to support Massey's female aviation students via structured meetings and social occasions.

The group has organised an inaugural symposium and workshop entitled 'Women's Inspiration and Networking Symposium' scheduled for 18th September 2021 at the Massey University Aviation Centre in Palmerston North. The theme is 'Why Women make Great Aviators!' and the event includes keynote speakers, workshops and a panel discussion. The aim is to inspire and advise female aviation students and women in the early stages of their aviation careers how to best pursue their ambitions, while navigating in what is still a male-dominated industry. Invitations have been extended to all NZ aero clubs and flight training entities.

Keynote speakers include Air NZ Captain Angela Swann-Cronin (the first Māori woman pilot in the RNZAF), and Dr. Tahlia Fisher, recently appointed as Senior Advisor Human Factors at the Transport Accident Investigation Commission (TAIC) after many years as Senior Safety Specialist at Air NZ.

Panel discussion and break-out activities are designed to enthuse and enlighten the attendees and to assist the building of new networks across all sectors of the industry. Support to date from senior women in the NZ aviation industry has been much appreciated. Massey University support for the event has enabled the registration fee to be kept at a nominal \$10 per person. For more information email Laura Draper: l.draper@massey.ac.nz

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Turbine Engines Promotion from Oceania Aviation

Oceania's Turbines team based in Ardmore are rewarding customers for the month of September, offering a brand new GoPro HERO9 and two All Blacks match tickets with any M250 turbine overhaul or HMI booked before 30th September. Customers can choose to book their turbine job in advance (up to three months from confirmation of booking), giving a window of opportunity for operators to plan for upcoming turbine work through to the end of the year while still getting the benefits of the promotion.

Turbines Manager Kieran Jones says "it's our way of saying thank you to our customers who continue to support local, being the only New Zealand-owned and operated M250 turbine overhaul facility in the industry." More details can be found on Oceania's website or by getting in touch directly with their Turbines team. www.oceania-aviation.com

More training resources from Waypoints Aviation

A lot of effort has been going into development of new Waypoints training resources. Company owner Mark Woodhouse says that, "When there's a storm, fishermen tend to their nets which is what we've been doing during the last year of COVID disruption. New resources have been developed and are going online as we work to grow the services we offer. It's all about doing what we can to best meet the needs of our changing industry."

As well as a full suite of training manuals for PPL, CPL, IR and ATPL exams, 16 PilotBooks (1-14 plus 17 and the FTM) are now available as eBooks on Apple's iBookstore. The company's mock exam offering (multi-choice practice exams styled on the CAA/ASPEQ final exams) now covers 23 subjects including for those studying to attain a Microlight Pilot Certificate (MPC). In addition, MPC candidates can now sit both their MPC Operational knowledge and MPC Technical knowledge exams online with their Instructor present, using the Waypoints website. At the conclusion of an exam, a certificate is generated showing the mark achieved and the syllabus reference for any questions answered incorrectly.

Waypoints also provide a huge amount of freely downloadable training resource material on their website. There are Powerpoint briefings for common flying lessons, pilot notes for various aircraft including Tomahawk, Chipmunk and Tiger Moth, aerobatics training notes and also low level display flying notes written to support the NZ Warbirds low level display flying course.

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More Blackhawk Logistics by Redfort

Auckland-based Redfort Logistics recently delivered Aerotech's second UH-60A Blackhawk helicopter to their Adelaide base in a door-to-door operation from Pickering Aviation in Texas, USA.

Aerotech Helicopters specialise in providing fire management, controlled burning, film and television, offshore / over water operations, external load for construction and exploration as well as executive charter. With a belly tank system capable of carrying around 4000 litres, Aerotech's new ex-US Army Blackhawk will be tasked primarily to firefighting duties and is expected to be permanently based in South Australia where more than 725 aerial drops were made during the 2020/21 bushfire season.

Redfort Logistics were involved in the project from end to end, including having their engineer in the USA to assist with loading and preparation for travel. Moving the Blackhawk was not a new experience, with the company having also arranged the deliveries of the first of type privately owned in both New Zealand and Australia.

Michelle Young, General Manager Logistics at Redfort says, "we have a long-standing relationship with Aerotech and were delighted to be involved in this project which was achieved in a timely manner and at acceptable cost despite the transport disruptions being experienced worldwide due to COVID. Although travel to and from New Zealand is obviously restricted, we have people in ten countries across the world that we can rely on to get the job done to our high standards and those of our clients."



Aerotech Australia's second UH-60A recently delivered to Adelaide ex the USA.

Redfort offer a full suite of global freight solutions specialising in the aviation sector. This extends to engineering support and preparation at source, plus engineering services at destination not just for delivery and unloading but also to re-commission aircraft and achieve necessary airworthiness certifications.

For more information contact Michelle Young on 022 060 6800, email: michelle@redfortgroup.com or visit www.redfortgroup.com

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Oceania Aviation sells first S-300Cbi produced by Schweizer RSG

Oceania Aviation has secured the sale of what will be the first S-300Cbi off Schweizer's new factory line. This is the first S-300Cbi production model since the purchase of the Schweizer assets by Schweizer RSG in 2018, making the sale a significant milestone for the company.

Oceania Aviation is an approved distributor of Schweizer RSG aircraft and has confirmed the order on behalf of Helifly, an established client based in New South Wales. Helifly provides flight training alongside other operations. Oceania's sales team also sold Helifly a classic 1970 S-300C in April 2014 which their Components team continue to support. Helifly's new S-300Cbi is due for completion by the end of this year.

"Oceania is a valued provider for Schweizer. The relationships they forge and quality service they provide help ensure the fleet is serviced and continues to grow. We are very appreciative of their efforts in maintaining and growing the knowledge and interest of Schweizer amongst the rotor community throughout New Zealand," says President of Schweizer RSG, David Horton.

Since 2018, Schweizer RSG has focused on supporting the global fleet with comprehensive parts and service. As of 2021 the company has moved into production of new helicopters. The manufacture of Helifly's 300Cbi comes shortly after Schweizer RSG's announcement of their first newly built 300C model, which was delivered to a customer in Senegal in August 2021.

Old log books available from Southair

Graeme Daniell at Southair says they have numerous old Log Books which they would like to pass on to anyone interested. They will be only be available until about the end of the year. Registrations are:

AQK, ARL, ATH, AUF, AUO, BBM, BDD, BFU, BGL, BHP, BHU, BJB, BJE, BKN, BKX, BLA, BOG, BPK, BPM, BRO, BST, BUA, BUW, BWK, BXV, BYJ, BYT, BZK, CEM, CGG, CGI, CGP, CMS, CPW, CTO, CQY, CRA, CRI, CRJ, DCD, DFQ, DFW, DJC, DMO, DPJ, DQC, DQD, DRA, DUB, DWV, DXL, EOA, EKO, ELB, ELH, EMI, ENB, EVK, FAQ, FBD, G-AJAF, G-AOME, G-BFKP, GDE, HBE, HDL, HOP, HPR, HQS, HTP, HUF, IAS, JHC, MCG, MSM, RVZ, TDC, TUA, TVA, and WGO.

Contact Graeme on 027 307 5850 or graeme@southair.co.nz

Tour the cockpit of MOTAT's flying boats

The Aviation Display Hall in Auckland's Museum of Transport and Technology is currently closed to the public as they focus on building a new 155+ space car park. However, exciting things are on the horizon.

Upon reopening in February 2022, visitors will have a new opportunity to explore the cockpits of aircraft in the museum's collection such as the TEAL Solent, RMA Aranui. MOTAT is in the process taking 360° photography of the cockpits in their vast aviation collection. Visitors to the Museum will be able to interact with the images using new digital screens to navigate through the cockpits

and learn more about the instruments and key controls.

Another new exhibit will be veteran helicopter ZK-HKG, Police 1. Decommissioned in 2019 the AS355 Squirrel supported critical Police missions for 28 years. As part of the Police Air Support Unit, Police 1 provided a vantage point in the sky, patrolling Auckland's traffic, attending incidents, and participating in countless search and rescue missions across the country. Donated by Airwork Ltd. the helicopter spent three months in MOTAT's Aviation Workshop being reassembled by a team of engineers and trained aviation volunteers.

Nelson/Tasman 100th Aviation Anniversary Celebrations 11th – 13th November 2021

Special events are planned to celebrate 100 years since the first flight to the Nelson/Tasman region on 11th November 1921. Captain P.K. 'Shorty' Fowler was the pilot of the pioneering flight, with Avro 504K E9429 of Timaru's New Zealand Aero Transport Co Ltd (NZAT), sponsored by well-known transport pioneer Tom Newman, and accompanied by young mechanic Ted Ranish. The first flight was from Wellington but with fuel reserves low the Avro made an emergency landing on a paddock in Stoke, before refuelling and flying on to the planned destination at Spring Grove. The Avro did much joy-riding around the Nelson/Tasman district, including first flights to Motueka.

Plans are well advanced for a Bristol Fighter from Omaka to re-enact the first flight on Thursday 11th November. Plaque and information panel unveilings will be at the Nelson Airport Terminal, the Putangitangi Greenmeadows Centre at Stoke, and at Spring Grove near the landing site. Many community organisations and schools are involved.

Veteran airliner de Havilland DH89 Dominie ZK-AKY from Mandeville will feature as the DH89s of Nelson-based Cook Strait Airways pioneered scheduled services from late 1935. At Motueka on Friday 12th November the Bristol Fighter and Dominie will be on display. Local scenic flights by the Dominie and DC-3 from Auckland will be available to the public. There will be an aviation dinner at Nelson's Rutherford Hotel on November 13th, open to all interested people.

For more information contact organiser Rev Dr Richard Waugh 022 533 9400 or email: rjw@ecw.org.nz

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Restoring Spitfire TB252

Gavin Conroy image

Supermarine Spitfire Mk XVI TB252 in all her glory. Avspecs are well-known globally for their stunning restorations and this Spitfire, piloted here by John Lamont, would be one of the best and most original flying in the world.

Earlier this year, another outstanding Avspecs restoration left their hangar at Ardmore for foreign shores. On this occasion it was a Supermarine Spitfire Mk XVI destined for McClellan Airfield, California. Gavin Conroy has followed the project, all the way from when TB252 first arrived here in 2002. Gavin writes:

During the past ten years Avspecs have been busy rebuilding DH Mosquitos to an airworthy standard. Largely unnoticed in the background however, progress has also been occurring on Spitfire TB252 – on site in fact since 2002.

Once Mosquito PZ474 was exported, the restoration on the Spitfire could be accelerated greatly and following test flying in New Zealand the aircraft was exported to the USA for owner Charles

Somers of Hillsboro, Oregon. TB252's first USA flight was from McClellan Air Force Base in California. It has a much better life ahead than for most of its previous years in storage or as a gate guardian.

A Spitfire with many homes

This Spitfire was built at Castle Bromwich in late 1944 but never saw any active service during WWII. In

early March 1945, the aircraft sustained damage while serving with 329 Squadron, a French Squadron serving as part of the Royal Air Force. In March 1945 the aircraft was assigned to 341 Squadron and it was here the unit codes NL J were applied. However these markings would not last long.

Next it was a Belgian Squadron's turn to operate the Spitfire when it was transferred to 350 Squadron in early 1946

and flown throughout the year as MJ N, mostly by M. Doncq operating firstly out of Drope then onto Fassberg as the Squadron relocated to Germany.

All this time the aircraft had been on loan by the RAF and it returned to England in 1947. Now operating with 207 Squadron, it was involved in a mid-air collision with another Spitfire in late 1948. A forced landing resulted, into a paddock near Devon. The pilot was fine,

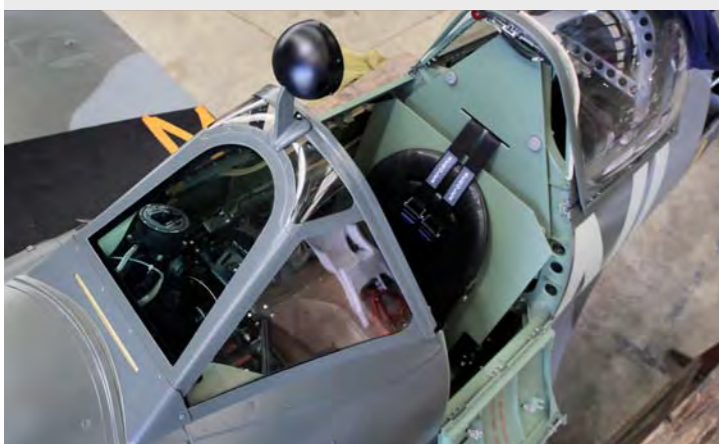
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Graduations on the gunsight dial cover a wide range of enemy aircraft.



A view down into the cockpit of a seat most aviators will give their right arm for.

but the Spitfire would not fly again and was eventually put into storage.

In 1955 the aircraft came out of storage and went on to serve as an instructional airframe at Odiham, then from 1959 the aircraft was put on display as a gate guardian at RAF Acklington. In 1969 it moved to RAF Boulmer and was then moved again in the same year to RAF Leuchars where it stayed until 1986.

One more move for TB252 saw it go to Bentley Prior where it remained until 1988. It was then that RAF ruled all original Spitfire and Hurricane aircraft on gate guardian duties were to be removed from display outdoors to preserve them, a decision greatly appreciated by enthusiasts worldwide.

Coming back to life

Tim Routsis purchased the aircraft in 1988 and it was transported to Vintage Fabrics in Essex, then just down the road to Historic Flying Limited and was placed on the UK CAA register as G-XVIE.

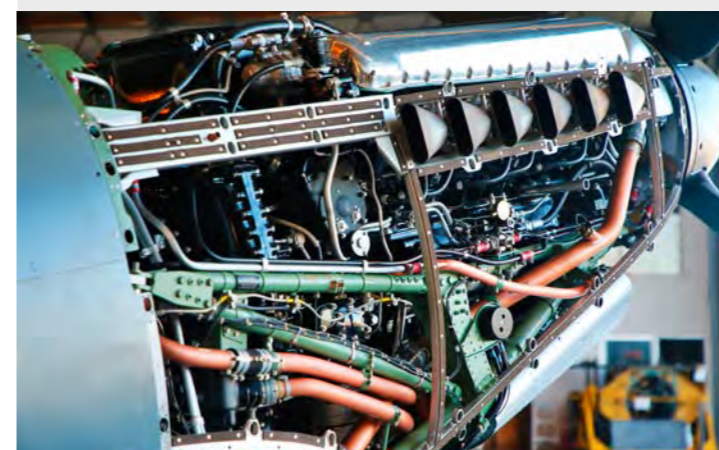
Following a sale in 1997 to Nicholas Springer of Germany, restoration was commenced but then the aircraft would be sold once more, this time to American-based collector Tony Banta, with TB252 now on the US register as N752TB.

Tony decided to have the aircraft restored by Avspecs and it arrived here in late 2002, the plan being for return to an airworthy standard.

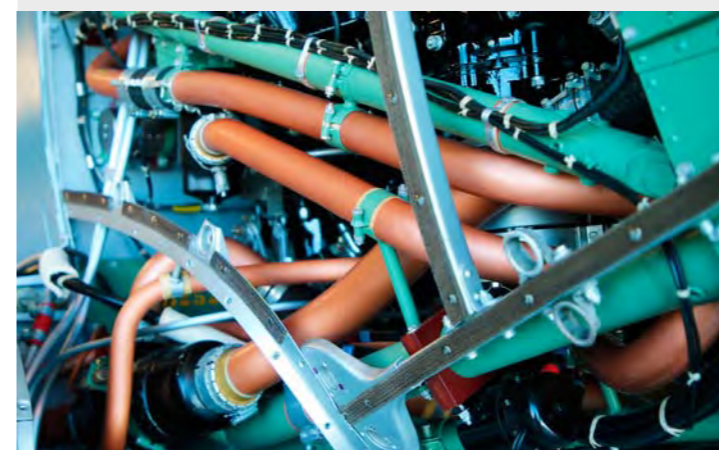
Once the aircraft had been unloaded at Ardmore the team were surprised to see how well the aircraft had stood up to so many years out in the elements. Areas where rain could get to showed the usual corrosion and there was evidence of animals living in the aircraft at one time or another.



One of the wings well under way, the uncovered sections are for armaments.



The pristine Merlin. RR versions had black rocker covers but Packards were chromed.



Some beautiful engineering here. Just look at those stunning copper pipes.



Under the danger cover are buttons to destroy the Friend or Foe Identifier in case of falling into enemy hands. (Small charges were installed in the casing.)

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TB252 when it served with the Belgian Air Force.



John Lamont brings the aircraft in nice and close which is his traditional style!

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A few parts were missing but this was hardly surprising with the aircraft having passed through so many owners over the years. TB252 would actually go on to be one of the most original restoration projects undertaken as so much of the aircraft was well-preserved, including the original engine.

As with many restorations this was an on again - off again project. TB252 had a first flight target date of 2006, but at the request of the owner was put back into storage before work started. That was an obvious disappointment for the Avspecs crew, and then the aircraft was put up for sale. They wondered if they would get the chance to finish TB252 at all.

Then in 2018 USA-based Charles Somers purchased the aircraft with a view to completing the restoration, and the project was back on.

When purchased by previous owner Tony Banta, the aircraft engine had been sent to Vintage V12s in California direct from the UK for overhaul. Parts such as radiators, oil coolers and some flight control services had also been restored in the UK. By the time Charles took possession of the aircraft the wings were also well on their way to being finished as was some of structural work on the airframe. The engine and other parts eventually arrived at Avspecs to join the rest of the project.

One big job undertaken was the conversion of the wings back to their original form. Previous owners had wanted fuel tanks in the wings to help with endurance just like many other Spitfires, but the new owner wanted the gun and ammunition bays returned to original condition complete with replica guns and ammunition. The resulting replica 20mm cannons and .50 calibre guns are made in New Zealand and look very real.

Most of the original wing and fuselage skin were kept. Owner of Avspecs Warren Denholm says, "This is one of the most original Spitfire rebuilds flying worldwide. At a guess I would say at least 70% of the aircraft is original including the Merlin 266 engine which we have learnt was the one fitted in the factory."

"When this was built at Castle Bromwich it was a bit of a lottery as to what the machine would be as the Mk XI and Mk XVI were built side by side. This one was to be a 'high back' aircraft and have the squared off wing tips to increase



The blown canopy supports rear visibility, important to avoid becoming a target.



Looking better than it would have when it came out of the factory in the 1940s.



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The replica ammo feeder for the 20mm cannons.



Most restored Spitfires carry more fuel here. Not this one.



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Replica cannons include massive recoil springs.

roll rate, so we purchased a wing tip kit such that the elegant lines of the Spitfire are returned to it. We did have a few setbacks with missing parts when the aircraft arrived which wasn't an issue as we find ourselves recreating history day in and day out regardless. We had to make things like the engine cowls as they were missing, but all in all the aircraft is amazingly complete and original".

One item that was missing when the aircraft arrived at Avspecs was the sliding canopy. Making one of these from scratch is a big job, but also quite achievable. The Perspex was blown locally and the job completed by long-serving engineer Russel Jenkins for a magnificent result.

Another item added to the aircraft and worthy of mentioning is the fitment of the large Mk. II gunsight at the top of the instrument panel. The aircraft was flown the first few times without this however it was decided to put it in for later test and photo flights. Test pilot John Lamont comments that, "when you see that gunsight on the work bench you think to yourself, there will be no vision out the front once that goes in and it looked even worse when it was put in the aircraft. However once sitting in the correct position I need not have worried - I never even realised it was there and what an amazing piece of history that had been added to this machine."

An original beam antenna has also been fitted under the rear fuselage which allows the pilot to find certain positions on the ground by following radio signals.

The paint scheme was applied by the team at Pioneer Aero at Ardmore along with some of the team from Avspecs, who helped where needed. Andy Hosking was in charge of getting the paint scheme correct and says, "What you see here is

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TB252 was painted in a scheme to represent an aircraft that would have been present during the D-Day invasions.



A bunch of clever buggers here. From left to right are: John Lamont, Jaiden Denholm, Warren Denholm, Chris Verrall, Dylan Stace, Andy Hosking, fancy pants Russell Jenkins, and Richard Stanaway.

the scheme the aircraft would have worn when it rolled out of the factory during WWII. The only addition is the D-Day markings that we were asked to paint on.” Andy also admits that after all that time in storage, he never expected to see the aircraft flying but “it has certainly all worked out for the best”.

Flight Testing

TB252 flew for the first time on December 18 2020. At the controls was experienced pilot John Lamont. John, who has flown many warbirds including the Lavochkin La-9, Polikarpov I-16 as well as test flying several Spitfires and P-40s, described the first flight as, “Just beautiful. It would without a doubt be the most original Spitfire I’ve ever seen and looks so good that I am almost afraid to touch it in case I leave a mark somewhere.”

The aircraft subsequently accumulated just under four hours of flight time at Ardmore. The final words can go to John; “The aircraft was so good straight out of the box - so to speak – that I didn’t need to fly it much. There were only a couple of minor issues to fix. It performed beautifully across the flight envelope which all pilots that get to fly it in the future are sure to notice.”

Congratulations, once again, to the team at Avspecs for another outstandingly successful restoration.

Gravin Conroy 



Gravin Conroy image



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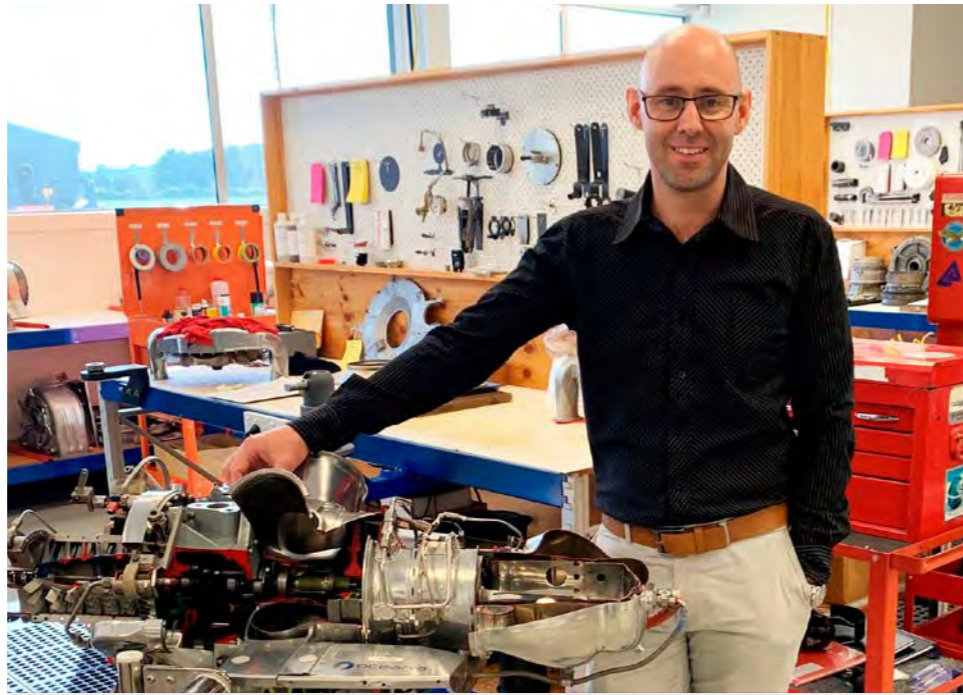
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Rajesh Kumar tolerance-checking a turbine module.



Kieran Jones, Manager of Oceania Aviation's Turbines Division at Ardmore.

Maintenance advice for turbine operators

Based at Ardmore, Oceania Aviation's Turbine Division provides a full scope of aftermarket support for all Rolls Royce M250 series turbine engines. Kieran Jones, who manages the division, describes a purpose that is as much about supporting operators with useful information and advice, as it is about undertaking maintenance when required. KiwiFlyer recently spoke to Kieran and alongside an introduction to their capabilities, asked him to share some of the wisdom his team offers to help reduce turbine ownership costs.

Thanks for talking with us Kieran. Can we briefly start with your own background?

I only started with the Oceania team two months ago and I'm incredibly excited to have joined. I've been in the aviation industry now for over 16 years having held engineering maintenance and management positions across military, GA, and commercial airlines. I originally started with the RNZAF and trained as an Aircraft Technician before moving on to GA and obtaining my AMEL in Turbines and Rotorcraft which is pretty funny given I spent 4 years in the Air Force working on Boeing 757 and C130 Hercules. I moved into more management-focused roles when I discovered that I really enjoyed working behind the scenes looking after the systems and people working on the tools.

Oceania are RR M250 engine specialists. What does that include?

We cover the full scope of aftermarket support for Rolls Royce M250 turbine engines - this includes inspection, overhaul, repair, NDT, leasing, exchanges and sales of M250 turbines as well as their individual components and accessories. Our focus is on the M250 C20, C20R, C30 and C47 series turbine engines for which we service the accessory gearbox, compressor and turbine modules. We also offer in-house fuel nozzle servicing options, where we

recommend undertaking a clean and flow every 100 hours of operation to protect your engine and avoid damage to other turbine components.

We have a hugely experienced and skilled team of factory-trained M250 specialists and we specialise in customising individually tailored repair and overhaul solutions according to the specific requirements of each of our customers.

A lot of NDT work is involved in turbine maintenance. Is that all in-house?

Yes. We carry out extensive in-house MPI (magnetic particle inspection) and FPI (fluorescent particle inspection) testing as part of normal servicing and testing processes. Our team is constantly developing and honing their skills as the inspection process is a crucial component of the overhaul process. Around 90% of all NDT we carry out is FPI. It's great at detecting cracks and utilises a dye that is applied and reacts to UV light creating a brilliant yellow glow which highlights any issues. FPI can be very sensitive to detecting flaws depending on the penetrant used.

I assume you have lease or exchange units available to minimise AOG time?

Absolutely - we are constantly building and maintaining turbine modules for this very purpose. We are able to respond rapidly to all critical downtime situations, offering a range of loan and exchange units which can be freighted overnight to minimise customer AOG. At the moment, our turbine loan and exchange options include C20B and C30 turbines, C20R and C20B compressors, and C20B and C30 gearboxes - with this list constantly evolving to meet customer needs. We also offer PTG and FCU fuel components ex stock, via vendor partners.

We work closely with local subcontractors where required, reducing both time and costs for our customers who put their trust in us.

You've mentioned that providing advice is a big part of the customer relationship for you. What's a common example of something in that regard you'd like to share?

Absolutely, we really enjoy that part of our customer relationships. Across the team, we have such a wealth of knowledge and experience and we are only too happy to share and provide advice when needed.

When customers call seeking advice on a maintenance task that they're performing, it's great to get the team together to discuss it and provide some clarity or to provide some reassurance back to those asking. A great example was receiving a phone call the other day with a C20B gearbox query. They were locally based in Ardmore so we hung up the phone and headed around in person just so we could give guidance on the seal change they were conducting.

We also provide a lot of advice around CEBs or Commercial Engine Bulletins. These come in two forms - either Mandatory or Optional - and it can sometimes be a bit of a minefield when determining which options are available. Discussing the 'pros and cons' of the options available with our customers tends to help them understand factors they might not otherwise consider, for example: "Will this improved compressor scroll avoid future cracks? Or do the cost, weight and availability issues outweigh the potential benefit?"

When you see damage or unusual wear occurring, I expect this presents an opportunity to advise other operators on how they might avoid similar issues. What are some examples that operators should consider here?

Something that we are seeing at the moment is pitting corrosion on the vanes of compressor case halves. With the newer plastic coatings, we are seeing the case halves lasting a lot longer in service - which is fantastic - but we are now suggesting operators pay particular attention to the vanes as this poses a greater risk of engine failure.

Corrosion will always be a problem for aircraft and turbine engines are no different. An option that we often suggest to operators is the application of Sermetel coating on particularly prone areas, such as the scroll and compressor front diffuser. Sermetel is an aluminium-ceramic coating that is applied as a spray, similar to a usual spray painting process and it has fantastic corrosion-resistant properties for operating in high temperatures. It makes a big difference for keeping corrosion at bay and the hi-sheen aluminium coating looks fantastic too.

Is there sometimes a reluctance to invest in more proactive preventative maintenance regimes due to their cost, until a bigger cost perhaps arises and a lesson is learned? Can you put some numbers around those scenarios?

There can be, especially when the result is hundreds or sometimes even thousands of hours down the track. A good example would be around our recommendation for a fuel nozzle clean and flow every 100 hours. This involves disassembly of the fuel nozzle and thorough cleaning to remove any build-up of carbon and grime which has a huge impact on the spray pattern of the nozzle. You may not see the results of a bad spray pattern until you reach a turbine overhaul or repair, but if the spray pattern and flow are not correctly set this can have drastic implications for other components in the turbine. Cracked and burnt nozzle guide vanes and turbine wheels, and damage to the combustion liner can certainly start adding up when you consider the small cost of the clean and flow check. A servicing that often costs less than NZ\$500 can help prevent a repair bill in the US\$ tens of thousands.

Are there any other recommendations you'd like to share to operators?

Don't be a stranger, feel free to pick up the phone or send a message if you have any questions or queries. The great thing is that when you call Oceania, you can then be connected directly through to our shop and gain access to a huge amount of experience and support from the team.

We actually also have a great promotion going on at the moment to reward our customers, where if you book in a turbine overhaul or HMI during the month of September, you can receive the brand new GoPro Hero9 as well as two match tickets for an All Blacks game at Eden Park (Covid-19 allowing, of course!)... just a little 'thank you' to those customers continuing to support our Kiwi-owned operations during these challenging times.

Thanks Kieran. Are you happy to be contacted with further questions?

Yes of course. You don't need to be a customer or become one. We're always willing to share our experience and advice.

Contact Kieran Jones on +64 9 295 0852 or 021 406 289, email: kieran.jones@oal.co.nz or visit oceania-aviation.com

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Much more than a cockpit recording device

Introducing SmartHUB - the latest innovation from Flightcell

A powerful new product that provides for capture and storage of aircraft data, either internally, or through connected systems such as cameras and audio sources has been developed by Flightcell. The product is named SmartHUB and integrates with (or can be operated independently from) Flightcell's widely adopted DZMx hardware. KiwiFlyer recently spoke to Flightcell CEO John Wyllie and Marketing and Communications Manager Jonathan McWatt about their development and plans for SmartHUB.



The SmartHUB can accommodate the new Flightcell camera.

Demand for Flightcell's SmartHUB is already high even during the product's development phase. Jonathan says, "We have received a boost from a recent Fire Emergency New Zealand directive which stipulates all rotorcraft they contract must be equipped with a cockpit video, audio and data recorder. This also aligns with expectations that DOC will adopt a similar policy, plus there are other global mandates being introduced from the likes of EASA."

"Industry reaction to the FENZ directive confirmed to Flightcell there would be strong demand for our new SmartHUB product," says Flightcell CEO, John Wyllie. Initial feedback from New Zealand operators has exceeded expectations so we are excited about releasing this product in the New Zealand market in early 2022," says John.

SmartHUB can be used as a standalone unit and does not require the Flightcell DZMx.

Further to the FENZ directive, Flightcell expects mandatory cockpit recording to become an increasing global trend over the next few years. An example of this is EASA's recent mandate that from September 2022, all new turbine-engined helicopters with a maximum certificated take-off mass between 2250 kg and 3175 kg will be required to carry a flight recorder if they are used for commercial air transport or commercial specialised operations. Alongside that mandate, EASA also strongly recommends all rotorcraft operators install a recording device even if they do not fall within a category of requiring one. The benefits are plentiful, especially for post-flight analysis and increasingly to optimise flight performance.

The Flightcell SmartHUB and optional Camera have been developed to exceed the FENZ Operational Service Specifications (ATS1201), specifically article 5.1.1 Aircraft Equipment. Although the FENZ directive states a cockpit recorder must be installed by 1 November 2021, Flightcell understand that operators may install at a later date within an agreed grace period if they can prove intent to comply with the FENZ directive.

Benefits of SmartHUB for operators

- Recording device for video, audio, and flight data, which is an effective tool for post-flight analysis, flight optimisation, and training purposes.
- Conforms with FENZ ATS1202 5.1.1 for cockpit video, audio and data recording.
- USB hub and ethernet ports.
- Hardened SD card storage for flight data and video/audio recording.

- Standalone unit (weighing only 646 grams) or can be paired with Flightcell's DZMx & DZMx PLUS for enhanced data transmission and capabilities.
- Optional compact and discrete HD1080P camera.
- Future capability of accommodating up to three cameras, installed in the cockpit, aircraft cabin and on the winch, all running off one SmartHUB.
- Cameras can be easily changed out as required or technology changes.
- USB charging points for laptops, tablets, mobile and other USB devices.
- Increased memory and USB expandability when linked to Flightcell DZMx or DZMx PLUS.
- Optional Wi-Fi access point (when paired with DZMx).
- Remote mounting with remote controls if space is an issue.
- Remote control from the DZMx when fitted.

Flightcell SmartHUB can monitor a range of parameters including GPS position data; altitude and speed; pressure altitude; vertical rate; turn rate; pitch; roll; and g-force; it will detect impacts and can be configured to log specific flight exceedances. SmartHUB will also enable operators, maintenance, and flight crews to review human and aircraft performance and allow operations to be monitored for both efficiency and safety.

SmartHUB does not require an STC

No STC is required. In the past, the cost and complexity of installing recorders in light aircraft and helicopters has been prohibitive. The Flightcell SmartHUB changes that completely. It is able to be installed easily and affordably, using various mounts in the smallest machines to provide virtually 'plug and play' recording capability. The SmartHUB can be installed, without requiring an STC, as Standalone Role Equipment under AC43-14 as a minor alteration.

Costs for SmartHUB and optional cameras

For New Zealand operators, Flightcell is offering an introductory price of USD4,500 for the SmartHUB, and USD500 for the optional camera (+GST). To receive this pricing, pre-orders and a 20% deposit must be made by 15 October 2021. The SmartHUB RRP from mid-2022 will be USD6,500.

For more information

Phone Flightcell on 03 545 8651, email the sales team at info@flightcell.com or visit www.flightcell.com/smarthub

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- Effective tool for post-flight analysis, flight optimisation and training
- USB hub and ethernet ports
- USB charging unit
- Compact, weighs just 646 grams



Simple Installation

- Standalone unit or can be paired with Flightcell DZMx
- Various cockpit and remote mounting options
- No STC required



Optional USB Camera

- Interfaces with Flightcell SmartHUB
- Compact and discrete design
- HD1080p ultra low light camera
- Max resolution 1920x1080P, 2.0MP
- Strong, mountable swivel bracket

Discover more at flightcell.com/smarthub



Jerry Chisum image

Jan Chisum flying Tiger Moth BMJ with the late Des Strong who owned the aircraft at the time, approaching for a beach landing with friends east of Waipukurau.

Fly yourself around Hawke's Bay

Continuing on with a theme of touring a region by air, Ruth Allanson travels through Hawke's Bay in this issue. If nothing else, lockdowns do at least create an opportunity to plan for such adventures once freedom returns. Ruth writes:

A recent visit to Hawke's Bay during winter highlighted some dramatic changes of scenery and varying landscapes. I am always surprised when I travel just how diverse and ever changing our landscape is.



Napier's Sound Shell with the Temperance and General Building (1936) behind



Sunken Gardens on Marine Parade

The neat thing about this area is the ability to so easily hop in your plane and check out the next airfield, as there are plenty to explore. Flying from the north to south, there are many interesting places to drop into and explore.

Sometimes considered off the beaten track is NZWO, located 2 nm northwest of Wairoa. This is a big town and the gate way to Lake Waikaremoana as well as the starting point for adventures to the hot springs of Morere and the Māhia Peninsular. Māhia is now home to Rocket Lab's launch site so (as always) check out the NOTAMS before you fly through. The district council maintains a lovely airfield which is often quiet. Your arrival may attract some locals who are always up for a good chat. If you plan to stay longer check out www.visitwairoa.co.nz

Next stop, Napier. Although commercial flights operated from the previous Beacons aerodrome formed back in the 1930s, it was basic (with a tram carriage as the terminal) so Hawke's Bay airport was established in 1963. The 1931 earthquake raised the seabed by 2 metres thereby supplying land for the aerodrome from the estuary. Until this point there was rivalry between Napier and Hastings as to where the main airport should be, as neighbouring Hastings already had plenty of land for a regional airport.

A quick look on the airport website shows details such as taxi and rental car contacts and there's an easy form to fill out within 24 hours of your arrival with your details and your landing fee of \$10. www.hawkesbay-airport.com. Air Napier, the local operator is next to the terminal and offers aircraft parking/fuel facilities and welcomes visitors.

ATC is cheerful and helpful and will usually accommodate a request for a sealed departure as birds can be a problem on the 16/34 grass vector.

The 1931 earthquake also provided the opportunity to redevelop central Napier into the art deco 'capital of the world'. If you plan to spend some time here, check out the i-site website www.napiernz.com where you can set filters for excellent accommodation information. There is a lot to choose from, from boutique to camping grounds, the latter of which can be found tucked away in out-of-town hidden coves or right in the town centre.

Marine Parade is the 3km stretch of iconic seafront that connects Napier with the Pacific Ocean including stunning views of Māhia Peninsular to the north and Cape Kidnappers to the south. In 1889, a sea wall was built to prevent flooding over what is today the Marine Parade road. Norfolk Pines were planted in 1893 to create an English style 'Noble Promenade'. The sea wall was originally 3m in height (part of it is still visible today). Then with the earthquake which raised the beach about 2m, Marine parade became protected and then was able to be developed.

There is so much to do here including a visit to the National Aquarium of NZ, The Ocean Spa complex, extensive bike tracks, playground with separate areas for big and smaller children, mini golf and the extensive sunken gardens created below street level in the 1960s. Find out more from www.hawkesbaynz.com

Next up is Waipukurau, a commercial hub of Hawke's Bay with NZYP having been in service since 1935. Within the club fleet is a Tiger Moth which attracts regular interest as they are one of a very few training organisations in NZ that can offer a Tiger Moth type rating. The grass runway 02/20 is 1000m long



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and may have sheep grazing, which will normally congregate at the southern end. Fuel (BP) is near the clubhouse and there is a motel near the northern end if you wish to stay close to the field, however the township is within walking distance.

Much of the surrounding land is in sheep and beef farms. Locals tell me that Waipukurau real estate is still relatively affordable so many people are choosing to live here and commute to their work in neighbouring Hastings, Havelock North and Napier. Annual events include the Spring Fling each September and October which sees all sorts of things pop up such as garden tours, concerts, the annual Waipawa duck race, a herb masterclass and much more throughout the region, often located at grand old estates and vineyards. www.TheSpringFling.co.nz

Hastings, Bridge Pa is the home of the Hawke's Bay and East Coast Aero Club. It is a busy club both flying-wise and socially, boasting legendary Friday night get togethers in the club rooms. The club has many events across the calendar year including the annual Tail Dragger fly-in 18th and 19th of September. (Last year it was held at YP but 2021 sees it located at Bridge Pa). This is a relaxing weekend for us enthusiastic tail dragger pilots and friends. It is an opportunity for people to have a go in STOL aircraft and includes 'JailBar bombing'. (Read flour bombing a 1947 Jail bar truck moving slowly down the airfield). There is a really good lunch on the Saturday for \$10 with wild fare, and a Saturday night get together in a local restaurant. Sunday involves a fly around the local strips and maybe to the beach if the conditions are right, with homemade morning tea along the way. For more information contact Reuben (CFI) cfi@hbecac.co.nz or 027 410 0457.

If you decide to stay a while there are rental cars available in Hastings, ph. 06 878 7505.

Or, you could return with your bicycle for a longer stop and try out the vast trails network, also perfect for visiting the local vineyards. www.hbtrails.nz.

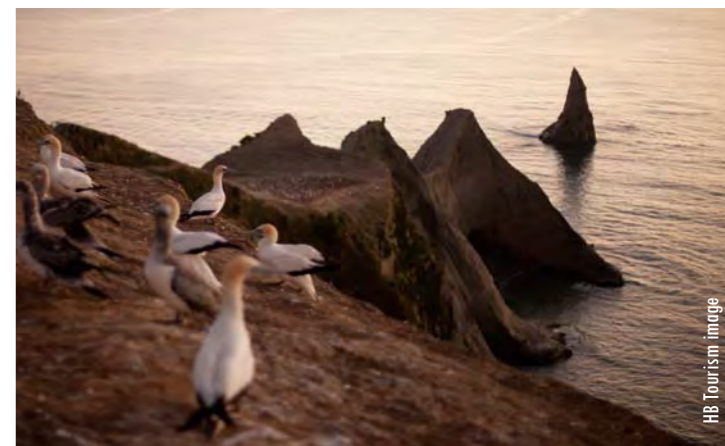
The airfield is in the center of the Bridge Pa wine triangle so there are vineyards within walking distance, such as the Alpha Domus vineyard. (Features a bi-plane label so must be excellent.) There are many to choose from and plenty of guided tours. If you would like to stay on an estate have a look at www.clearviewestate.co.nz. Nestled behind the hedge above the restaurant and winery, the fully renovated homestead has become a family accommodation full of character and atmosphere. This historic homestead began life as a tobacco drying shed before becoming the family home of the Vidal family around 1915, as they established grapevines on this their 'No.2' vineyard.

The gannet colony is a must see at Cape Kidnappers. The gannet's number over 20,000 and arrive from warmer climes in September and stay through to April so they can have their chicks in December and January. Taking a tour with Gannet Safaris means you are taken right to the gannets (no walking required), over private farmland pastures, steep gullies and breath-taking cliff top views. You'll also be travelling with a local who has a wealth of information and who provides refreshments. This highly recommended tour is 36 km and lasts 3 hours and you can either meet at the base (Te Awanga) or have a transfer from Napier, Hastings or Havelock North i-sites. www.gannetsafaris.co.nz

Another way to see the gannets is to travel via the coastline from Clifton to Cape Kidnappers by vintage tractor with Gannet Beach Adventures. They have been operating for 70 years and used to use Model T Fords, and old trucks as transport but upgraded to tractors when the sea salt proved too much for the vehicles. You will learn about the most fascinating geological part of our country and kids will enjoy riding on their trailers. www.gannets.com.

Te Mata Peak is the place to go to watch the sunset. We arrived to the top via car, an hour prior to the sun setting so we could enjoy some short walks, learn about the Māori legend of Te Mata and watch the paragliders swirling in the evening thermals. There are cycle and walking tracks, including a track to the top; www.tematapeak.co.nz. Not far from the summit is the glorious Peak restaurant which is open all day with delicious food at reasonable prices, this being the perfect place to raise a toast to the delightful Hawke's Bay as a great Place to Go. www.thepeakhouse.co.nz.

Ruth Allanson



Gannet colony at Cape Kidnappers



Te Mata Peak

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Successful students and record training hours at Massey University School of Aviation

No matter what the degree, an issue facing all University students is what will come after it. Employment must often also be navigated during the degree, whether for income purposes or as part of practical study requirements. These are both areas in which Massey University School of Aviation works hard to support its students. Anke Smith, Manager of Business Development and International Programmes presents some recent successes as well as plans for the coming year:

Massey University's aviation students continue to be sought after – either during their study period in internship project roles, or in roles with NZ aviation industries.

Origin Air recently hired two senior Bachelor of Aviation students to ramp handling / check-in roles at their Palmerston North port. This continues the trend of previous students holding such roles during their study period at the school – two subsequently transitioning to being hired as Origin Air pilots.

Massey's new relationship with Petroleum Helicopters International enables Bachelor of Aviation Management students to undertake internship opportunities with a global helicopter company whereby they gain first-hand knowledge and experience, working alongside PHI International staff such as the Safety and Quality team. Being facilitated to build their expertise in risk assessment and safety management in a real-world environment is a huge advantage to young students and recent graduates.

The first person to have this opportunity, Alisa Izumi, commenced in June 2021 with a further student already selected for the summer 2021 internship placement opportunity.

The Royal New Zealand Air Force recently accepted two Bachelor of Aviation graduates as trainee pilots. Finlay Adam and Luke Oxford are now following their lifelong dream of becoming pilots in the RNZAF. Pilot Officer Oxford has already completed his RNZAF Officer Commissioning Course – distinguishing himself early on by being awarded the RNZAF Officer Commissioning Course Trophy – for “demonstrating the most application, determination, commitment and resilience to succeed” - attributes already apparent during his Massey degree. Finlay is currently mid-way through the Officer Commissioning Course.



Alisa Izumi secured a prestigious internship with Petroleum Helicopters International

Growth of RPAS

Work continues apace to build pathways for employment, research, and training in the NZ RPAS industry for Massey's aviation students. The scope, development and rapid uptake of applications of RPAS technology in NZ continues unabated and opportunities are increasing for aviation students to take up interesting roles in this sector.

Demand for Massey's RPAS courses continue to grow and enrolled candidates reflect the breadth of the industry in which this technology is being utilised. Massey encourages all organisations using RPAS to become members of UAV NZ – the professional body which is committed, amongst other aims, to building a best practice approach to the application of – and training for – this technology in NZ.

Record flight training hours

Also continuing apace is the rate of flight training being undertaken at the School of Aviation year on year. Under the eagle eye of Maintenance Manager Tom McCready, the team of FieldAir engineers have been keeping the Massey fleet humming.

The effects of the 2020 Covid-19 lockdown and the interruption to flight training for Massey's BAv students certainly challenged the flight training team led by CFI Paul Kearney – and the engineers who remain committed to ensuring the aircraft are maintained to highest standard. Refinements in student training schedules by the flight instructor teams and efficiencies enabled by a specially developed Microsoft Power App for refuelling, plus additional efficiencies in the maintenance arena have all seen a remarkable increase in productivity.

The numbers speak for themselves with two months in 2021 exceeding 1000 hours of flight training completed. This coupled with a reasonably benign 2021 winter has enabled good numbers to be maintained during that time.

With all aircraft having had fresh checks, August 2021 was on track for another huge month for flight training before being interrupted by the latest sudden Level 4 lockdown.

All going well, the Maintenance Manager and CFI are aiming for another record year of 10,000 hours of flight training completed in 2021 which will completely overtake the previous Massey record of about 7,500 hours.

continued over page



Fieldair Engineer Nick Melton at work on one of the Massey aircraft.



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Annual Open Day

The school's annual Aviation Open Day at the Massey University Aviation Centre in Palmerston North is scheduled for Saturday 11 September 2021 for which interest continues to be strong from prospective students and their families. If Covid regulations preclude the usual on-campus open day experience, plans are in place to offer an online alternative introducing prospective students to Massey's aviation staff, students and its programmes. Prospective students will be able to have their questions responded to during the online event.

Planning for 2022

As the year moves into the summer period, enquiries and applications for 2022 aviation programmes continue. The School also looks forward to awarding pilots' 'wings' to a large number of students from the Massey 72 cohort in early October, and to celebrating another aviation candidate being conferred his doctoral degree in late November.

Even in an uncertain world Massey's School of Aviation continues to develop new initiatives to meet the demands of the industry as it transitions into an era of increased emphasis on sustainability, new technology, travel requirements containing additional health protocols and an anticipated shortage of well-trained pilots and aviation professionals.

Anke Smith 



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Aircraft Liability Insurance Explained

It is important for aircraft owners and pilots to understand the principles of liability and how these are covered by their insurance policy. Bill Beard from Avsure explains:

The most common form of aviation policies are divided into three main sections as follows.

SECTION 1: Loss of or accidental damage to the aircraft hull.

SECTION 2: Legal Liability to third party property and bodily injury or death other than for passengers.

SECTION 3: Legal Liability to passengers when entering, on board or alighting from the aircraft.

In general terms however all incidents resulting in death or injury to persons in New Zealand are covered under the ACC Legislation and as such there is no provision in NZ for anyone including aircraft passengers to issue proceedings in New Zealand courts seeking compensation for death or personal injury. The Law however does not prevent claims for mental shock, distress or trauma so you still need passenger liability cover.

The main liability risk for New Zealand aircraft owners therefore are claims for accidental damage to third party property and the associated legal fees.

The main events likely to result in a third party property claim are as follows.

- Taxiing into another aircraft (biggest risk in the vicinity of fuel pumps or in tight manoeuvring areas).
- Damage to other peoples property as a result of a forced landing.
- Loss of direction on take-off or landing and running into other aircraft, fences, hangars or whatever. There was a close call at Ardmore some time back when a landing aircraft lost directional control and crossed the adjacent taxiway at high speed just missing a highly valued brand new aircraft backtracking on the taxiway (it could have been a corporate jet!).
- Simple ground handling incidents such as pushing your aircraft into another aircraft or worse – a helicopter.
- The worst scenario – a mid-air collision where you may be found at fault.

If you damage another aircraft resulting in the owner of that aircraft having to make an insurance claim, it is the third

party insurance company which will look around to see who was responsible for the damage and they'll be on your case in a flash to recover their repair costs. You need to ensure the aircraft liability coverage or limit of liability is adequate to cover you for any negligent acts. Half a million dollars is not nearly enough in today's world. The absolute minimum industry standard would be NZ\$1m but with the price of aircraft and associated equipment on today's market, most operators are insuring for at least \$2m to \$5m.

In aviation circles the amounts awarded can be quite large, therefore it's important to carefully consider purchasing higher limits in order to have an adequate limit of liability to cover all possibilities.

All policies should include the "Pilot Indemnity Clause" which extends the policy to cover the pilot as if they were the insured. This gives the same protection to the pilot as to the policy holder but does not increase the liability of the insurers beyond the declared indemnity.

To discuss any matters relating to aviation insurance or for quotations, contact Bill Beard or Arden Jennings at Avsure on 0800 322 206.

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Managing Risk in Bush Flying

“It’s not about stopping the fun...”

Gavin Conroy image

Over the last few years, Craig Anderson has contributed some very well-received articles on bush flying. He is an accomplished bush pilot, instructor, and more recently Safety Manager for Sounds Air, and in this issue of KiwiFlyer combines all of those attributes to discuss risk in bush flying. His advice is much more about making sure bush flying is fun, than anything akin to stopping fun, so if you enjoy dropping into remote strips or have been contemplating doing so, read on. If you're not into bush flying, consider that this thinking can be applied to most other aspects of aviating as well.

Some years ago I gave a friend a type rating in my Pacer who was a very experienced airline and tailwheel pilot, with many more hours in his logbook than me, including some very cool machines such as the DC3 and Beaver.

After the type rating was done, we headed up to an airstrip about 20 minutes from Blenheim that I used to frequent often – a pretty good strip roughly 400m long with a slight slope. The weather at the strip when we left was reported as a 5 knot westerly, so we would be landing with a headwind. The flight went fine, and as we lined up for the strip on final approach I remember vaguely thinking that our ground speed seemed a bit quick, but didn't take too much notice, as my mate had so much experience he would obviously be able to 'sort it'. We sailed merrily over the

fence, touching down 'okay', however we were going too fast and couldn't keep directional control, ending up in a slow ground loop about 2/3 of the way up the strip.

Unbeknown to the oblivious instructor, the wind had turned just a few minutes before we landed so that we were actually landing with a 5 kt tailwind. That in itself should have been easily manageable, however my friend had no experience in the Pacer, did not know this strip, and I as the 'instructor' took no action to take charge of the situation.

There were so many human factors lessons from that experience that they could fill a book, but the take-home for me was that I, as the instructor and pilot in command never bothered to take some time to assess the risks and challenges of the flight (of which there

“Why do people devote themselves to summiting Mount Everest, or reaching the South Pole?
Or for that matter, landing on a remote West Coast beach in a Piper Cub?
These things are good for our soul.”

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were many), and how we would deal with them.

For example:

- Who is in charge of the flight? (The instructor or the high time student?)
- Do we rely on the weather report from 30 minutes prior, or maybe a wind assessment on arrival might be a good idea?
- On realising we were going too quick on short finals, maybe some form of risk mitigation (i.e. go-around) may have been in order?

I learnt of lot of lessons about risk and risk mitigation that day that in hindsight seem very obvious, but I guess that is how 'experience' works! However even a quick discussion of these risks could have easily prevented the incident and the embarrassment that went with it. (By sheer luck no damage was done to the poor little Pacer.)

The airlines have a fancy term these days to describe this called 'Threat and Error Management', which basically means thinking about the risks (threats) and mistakes (errors) we might make during the upcoming flight before they bite you in the arse. Unfortunately for me I got bit...

Pros versus Cons

In my current job as Safety Manager for Sounds Air, every day I am thinking about Hazards and Risks. What aspects in our operation present risk, and what should we be do about them, if anything, to reduce the risk? The problem is, nearly everything we do in aviation involves some risk, and in order to maintain an ongoing commercial operation you can't just stop doing these things, so we need to mitigate the risk in a way that lets us keep operating safely and efficiently.

Bush flying (and other pursuits) for recreational purposes are different though. The easiest way to mitigate any such risk is simply to stop doing it. Job done, risk eliminated, with no negative consequences apart from a little bit of personal pleasure out the window (and a lot of AVGAS saved).

However when you start looking at the bigger philosophical picture of life in general, and what gives us humans life fulfillment, challenge, and goals to strive for, you realise that even if the gain is simply personal fulfillment, we need to be doing these things. It is what provides the spice and variety of life. Why do people devote their entire life to summiting Mt Everest, or reaching the South Pole? Or for that matter, landing on a remote West



Long hard beaches like this can be a lot of fun. Make sure however you know if there any soft patches.



Nigel Griffith expertly touching down on a Marlborough Sounds beach.

Beaches

Beaches can seem like easy pickings, as they are often long and flat. They can provide great fun for any aircraft, provided you are 100% certain of the surface.

RISKS

Tipping over on your nose due to soft sand, and not being certain of the surface state.

Being caught by an incoming tide due to mechanical issues, or getting stuck. This is not as uncommon as it might seem.

Undulating or sloping sand. Beaches often have undulations that can be difficult to spot from the air, and can have excessive slope (camber) causing difficulty in maintaining directional control.

MITIGATIONS

Don't attempt to land unless you are certain the surface is hard, or you have tundra tyres (bush wheels).

Have appropriate equipment on hand for unforeseen circumstances. Land in a group so there are others to help.

Make sure you have a good look before you land. This may mean several passes to make sure you know exactly what the surface is like. If you are not certain, give it a miss.
Fly to your experience level, and don't attempt something you can't cope with.

Coast beach in a Piper Cub? These things are good for our soul.
When we assess any risk, we are balancing the gains against the negatives, or pros vs cons. So to use bush flying as the example, what are the pros (i.e. benefits) of bush flying, and what are the cons (i.e. risks)? Are there any lines that should never be crossed because the risks are too high, and if so what are they? Are they different for different people, and if so how do you know where your own personal lines are? Is it up to us individually to decide where those lines are, or should it be someone else – like CAA? Or the insurance company?

Of course, these questions don't apply only to bush flying, but to any pursuit that involves risk - whether it be rock climbing, car racing, parachuting, or scuba diving. I like bush flying, so that is the focus of this article.

Is Risk all that Bad?

Something I am learning about risk, is that it is not all bad. Societies attitude to risk these days is that it must be eliminated at all cost. We see policies and procedures everywhere designed to prevent anything slightly bad happening to us. We must hold handrails when walking down stairs. We must wear 'bump-hats' and high vis vests in the workplace. Half of our roads are permanently covered in road cones.

There are a few problems with all of this:

1. You get to a point where the risk mitigations or controls become more risky than the initial hazard itself.
2. As Elon Musk recently said when being interviewed amongst multiple items of beeping vehicles and machinery, "Everything



Sand like this is no trouble for aircraft fitted with Alaskan Bushwheels.

around here is crying wolf."

3. By eliminating all risk, we never have the chance to learn from our mistakes. Simply put, people need to be exposed to some level of risk in order to learn to avoid it.

In addition, there are definite benefits, and a real sense of satisfaction to be had when you succeed safely and overcome by good management (and not luck) something that has inherent risk. You only need to look at what SpaceX is achieving in recent



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months to see a good example of this.

This week I received a call out of the blue from an aviation insurance assessor I have dealt with a few times over the years. He was asking a question on behalf of the underwriters regarding pilots aquaplaning aircraft tyres on water. How common is it? How risky is it? It seems they are thinking of excluding that practice from aviation policies. I told him that, yes I have done it myself. I know of others that have done it, and yes there are risks involved. However the big question is, is it any more risky than other bush flying activities? I personally don't think so (given some provisos that I will mention shortly).

It seems to me there are at least as many accidents involving other flying activities that don't have the same focus. For example - aircraft going upside down after landing on soft beaches with small tyres, pilots running off the side of short or slippery airstrips for which they have inadequate or no training, or stalling due to lack of airspeed control. The list is long.

To me, the discussion comes back to risk and risk mitigation. I believe it is up to us as individual pilots to take responsibility for mitigating the risks that we are involved in.

Enclosed Terrain

Mountain flying is part and parcel of flying in New Zealand, but pilots should ensure they have specific training. The five hours of PPL mountain flying training requirement is a great start, but if you are going anywhere serious look to get some additional local training from an experienced instructor.

RISKS

Becoming trapped with no way out. This could be due to weather, aircraft performance limitations, or simply not enough space to turn.

Loss of horizon. Very easy to happen, especially if you are not familiar with operating in mountainous terrain. Can lead to overly high nose attitude, and stall.

Turbulence and downdraughts.

MITIGATIONS

Always fly on one side of the valley, and never enter an enclosed area without an escape plan. Always turn away from rising terrain.

Training and experience are key factors, as well as closely monitoring airspeed.

A good understanding of airflow over terrain is critical. Flying underpowered aircraft in windy conditions in mountainous terrain can be dangerous if you don't know what you're doing, however good energy management can make it possible and rewarding (think gliders as an example).



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Mitigating the Risks – A Personal Responsibility

In aviation, the most basic form of risk mitigation is compliance with CAA Rules. In general, the rules have been designed to provide a basic level of safety to aircraft occupants, and to those on the ground. Minimum heights to fly at; distance from cloud; minimum fuel requirements; etc. I know we all moan about the rules from time to time, but for the most part they make sense. It is a given that we should comply with them.

Beyond the basic CAA rules however, we as bush pilots are still left with many other ways we can choose, or not choose, to mitigate the risks of what we do, even if we are already complying with the CAA rules.

A Risk-Based Approach

The thing with bush flying these days is that with its huge rise in popularity, activities such as landing on beaches, mountain tops, and water are all over YouTube, and the temptation for pilots is to go and just "give it a go".

Don't get me wrong – I am not saying there is no place for self-learning and self-experimenting along the way. Most of us do this all the time without thinking about it. (You could also call it experience building.) What I am saying, is that many accidents could be avoided if a little more thought and pre-planning is put into our actions in the aircraft – before they jump out and bite us.

I think we as pilots (and as a society in general) need to have a much more 'risk-based' approach to everything we do. It's not always about eliminating the risk completely (i.e. not doing the things we enjoy if they have any risk involved), but it is always about thinking about it:

- What could go wrong in this situation?
- What are the chances of it turning pear-shaped here?
- What can I do to better the chances of a positive outcome?
- Do I know what I'm doing here? Do I need some advice or training from someone who does?
- Is my aircraft properly equipped for this? Does it have the performance? Are my tyres big enough for where I'm landing?
- Am I current in my aircraft enough to be trying this?

If you analysed a range of bush flying (or any other type of flying) accidents, I would bet any money that in most cases the pilot had not gone through the thought process above and had not considered many of these issues properly (or at all), or was not

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honest with themselves about the answers. I know for the incidents I have had myself, this is certainly true.

I believe that a true risk-based approach to bush flying, and indeed life in general, is a fantastic method to allow us to continue doing the things we enjoy in a responsible and safe manner. In fact the CAA themselves these days are pushing the risk-based mantra, which is great. Unfortunately it's not always enforced as such by them, but it's a start.

A true risk-based approach shouldn't rely on authorities or insurance companies arbitrarily banning certain activities, or putting so many rules in place that we become choked with them. But in return it does come with responsibility on all of our parts to play the game.

In short, my answer to the questions posed at the start of this article regarding safe limits, and personal boundaries, is that there is no definite answer. What may be risky to me might seem just fine to you, and vice versa. And that's the way it should be – different for every pilot, and for every aircraft. It's not about stopping fun, just making sure that the fun doesn't stop you.

Craig Anderson 



Steve Galway's stunning Pacer is right at home here.



Time for a cup of tea.



Having a break up a West Coast river with the guy who taught me the art of bush flying - Willie Sage.

Riverbeds

Like beaches, riverbeds can appear to be easy to land on. Sometimes they are, but there are also risks to be aware of.

RISKS

Large rocks/obstacles causing damage to undercarriage or tailplanes.

Ruts, ditches and undulations. Riverbeds, due to their very nature are always changing.

General damage to your aircraft.

MITIGATIONS

Judging rock size, and ensuring you are aware of large obstacles (rocks, driftwood, etc.) takes a lot of experience to master. Always make several passes to ensure you haven't missed anything.

Undulating terrain can be difficult to spot on riverbeds. Look for shadows or changes in surface type (e.g. small stones to large stones) that might indicate a change in terrain. Sometimes a pass from the other direction will show up something that you missed before.

Riverbeds and rocks can be tough on aircraft, which are generally fragile! Large tyres and bush aircraft mods add a huge safety factor when operating on this type of terrain.

Commander Robert Edwin

New Zealand's first official weather forecaster

Our meteorology article for this edition of KiwiFlyer looks back at the history of New Zealand weather forecasting. Ciaran Doolin, MetService Meteorologist and Adjunct Teaching Fellow at Victoria University of Wellington, traces developments that occurred for the maritime industry in the 1800s, then for aviation in the 1900s leading to the discovery of 'jet streams' and to the comprehensive understanding we have of weather in the present day.

The fortunes of the transport industry and meteorology have been intertwined since the 19th century. The word 'forecast' was coined by Vice-Admiral Robert Fitzroy who made the first attempt at scientific weather forecasting. Fitzroy, as his title suggests, was a naval officer and it was concern for the safety of shipping that spurred his interest in weather prediction. Inspired by Fitzroy's example, Commander Robert Edwin established a storm warning system in New Zealand during 1874, thus becoming the country's first official weather forecaster. This article explores the career of this interesting character.

Early European explorers encounter New Zealand's wild weather

When rounding North Cape during the Christmas-New Year period in 1769-1770

the *Endeavour* experienced five weeks of storms. Captain James Cook wrote of this experience:

I cannot help thinking but what will appear a little strange that at this season of the year we should be three weeks in getting 10 Leagues to the westward and five weeks in getting 50 Leagues for so long it is since we pass'd C. Brett but it will hardly be credited that in the midst of summer and in the latitude of 35 such a gale of wind as we have had could have happen'd which for its strength and continuance was such as I hardly was ever in before.

Cook was not the only explorer to have commented on the ferocity of New Zealand's weather. The French explorer de Surville, in the *Saint Jean Baptiste*, rounded North Cape around the same time as Cook. Monneron, a supercargo on the vessel, remarked:

In a country so much exposed to storms as New Zealand we could not possibly expose ourselves by remaining there longer – to lose the only heavy anchor we had left...

In fact, it was a concern for the safety of shipping that inspired the first attempt at weather forecasting, by Vice-Admiral Robert Fitzroy. Fitzroy had a distinguished career as a naval officer, commanding the *Beagle*, which carried famed naturalist



Figure 1: Robert A. Edwin as a young man (ca. 1860). Reference: PA3-0335. Alexander Turnbull Library, Wellington, New Zealand.

Charles Darwin. He was the second Governor of New Zealand from 1843-45, before returning to Britain. In 1854, he was appointed as the Meteorologist to the Board of Trade. Fitzroy was horrified by the losses of life at sea due to storms. In particular, the wreck of the *Royal Charter* off the coast of Anglesey in 1859, resulting in the loss of some 450 lives, spurred Fitzroy into action. He pioneered a system of storm warnings, promoted the use of barometers as a tool for diagnosing inclement or improving weather, and began publishing weather forecasts in *The Times* from 1861.



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NZ's first official weather forecaster

In 1874, a retired naval officer, Commander Robert A. Edwin, was put in charge of an experimental storm warning system in New Zealand operated by the Marine Department, thus making him the country's first official weather forecaster. Born in 1839, Edwin entered the Navy in 1853, and served in the Crimean War, participating in the bombardment of Odessa and Sebastopol, where he was wounded in 1854. It is possible that he experienced the great storm of November 1854 which ravaged the Allied fleet, resulting in the loss of the British steamer *Prince*, the French 100-gun battleship *Henri IV*, and more than a dozen other vessels. The resulting scandal in the British and French press led Louis-Napoléon to direct the French scientific community to find a way to forewarn navies of incoming bad weather. The subsequent investigations led to the establishment of a storm warning system in 1863, similar to Fitzroy's. Edwin retired from the Navy in 1871 to join the Marine Department as an examiner of masters and mates in seamanship and navigation.

Edwin began his experimental storm warnings from an office in Custom House, Wellington. The early forecasts varied in their accuracy but were remarkably good given the very sparse observational network and juvenile state of meteorological science at the time. In 1875, Edwin sent circulars to the harbourmasters asking for an assessment of the new system. The response was mostly favourable with estimates of accuracy ranging from "50 per cent useful" to "in almost every case correct". The need for reliable warnings was undeniable: in the period 1874-77 there were 25 vessels on average wrecked each year. Isobaric charts – the familiar 'weather map' – began appearing in New Zealand daily newspapers from December 1882. Edwin's approach to weather forecasting was pragmatic and empirical, owing to his maritime background. Edwin continued his duties almost unaided until his retirement in 1908.

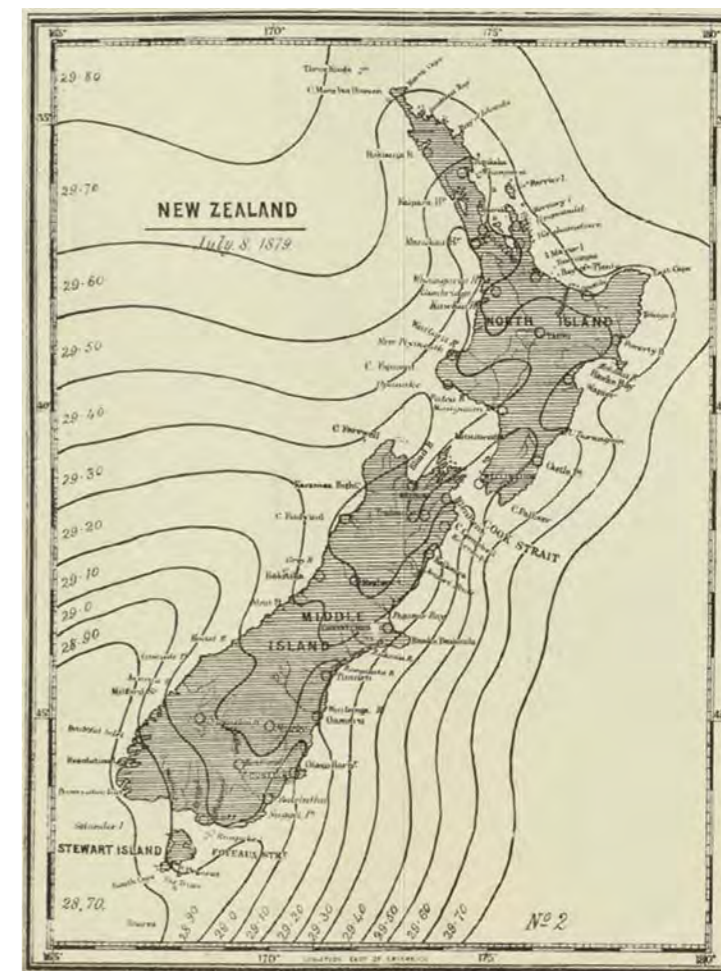
Meteorology takes to the air

Edwin's storm warning system arose from a need to safeguard mariners from hazardous weather at sea. The next frontier to explore was the 'ocean of the air' – and those explorers too needed weather warnings.

It was fortuitous that as the aviation industry began to take off in New Zealand, the Meteorological Service acquired a new forward-thinking, industrious director, Edward Kidson. Kidson's efforts as a scientist and as an administrator put New Zealand meteorology on robust scientific foundations for the first time. Shortly after his death in 1939, the exigencies of the Second World War led to further expansion and development of the discipline. The growth during this period was facilitated by the emergence of a new mode of transport: aircraft. The demand from the aviation industry for a broader and more accurate range of forecast products necessitated scientific advances, the establishment of a dedicated aviation weather forecasting section, and an expansion of the traditional observational network. An upper air network was set up, using data collected by means of radiosonde weather balloons and instrumented aircraft. This led to new discoveries such as regions of very strong winds in the upper atmosphere, now known as 'jet streams'. These discoveries, which might not have been made had mankind not chosen to take to the skies, have greatly improved our understanding of weather systems and the global atmospheric circulation, and thereby the ability of weather forecasters to keep aviators safe in the skies.

Ciaran Doolin 

Figure 2 (at right): Surface pressure analysis for 8 July 1879 by Edwin. From Edwin, R. A. (1879) Art. IV. - On the Principle of New Zealand Weather Forecast, *Transactions and Proceedings of the New Zealand Institute*, 12.



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Frank accumulated many 'Huey' hours during 15 years with the RNZAF.

A Diamond Anniversary

For his regular NZ Warbirds contribution, Frank Parker has on this occasion used the opportunity of our 75th issue to take a flight along memory lane. Frank was the first person consulted when KiwiFlyer was just an idea dreamed up one weekend. "I'll buy an advert off you," he said. Frank's words were sufficient encouragement to proceed and here we are 75 issues later. Thanks Frank. There are some very good memories on this side of the fence also.

Traditionally a 75th Anniversary is termed Diamond so congratulations to Michael on achieving the 75th issue of KiwiFlyer spanning some 13 years of publication. I can recall chatting with Mike on the pros and cons of publishing a new 'Aviation Rag'. Maybe I should have offered to buy some equity in the idea.

As regular readers will know I have penned the occasional story over those years, centred on my interest in Warbirds activities. I thought for this issue we might therefore take a stroll down memory lane. Here are some highlights:



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April 2008: My first contribution in KiwiFlyer Issue 4 and a story to celebrate the Harvard's 70th Anniversary. Hard to believe the old girls have since passed their 80th and aren't far off their 85th.

December 2009: This instalment was the opening of the 'Warbirds Visitor Centre' in what is now our 'old' (and sold) hangar. The Visitor Centre was established for a number of reasons; to 'show off' our fleet of aircraft, display our collection of memorabilia, raise our public profile and raise funds for the association. From a 'good idea' and small beginnings 10 years ago the Visitor Centre has continued to grow and is now the showcase of the association.

June 2010 was a review of the summer's flying and display season. This included the first of the NZWA Open Days at Ardmore, now a regular event, The 'Tauranga City Airshow' in January, Art Deco Napier in February, Mercury Bay Aero Club Open Day in March and Warbirds over Wanaka at Easter Weekend.

February 2011 was one of many 'aircraft' stories, in this case flying the L-39 Albatros which remains one of my favourite aircraft, simple, great performance, air-conditioned, and a pleasure all round. (Ed: The pleasure was all mine actually as Frank took me for a ride in it including "a quick scorch around the low-flying area", for training purposes.)

April 2011 described the lead-up to the Omas Classic Fighters Air Show over Easter. This was perhaps the halcyon of the good times, part of the story:

"It's hard to believe that the T-28 Trojan, which not too many years ago was one of the few aircraft in the Heavy Metal brigade on the NZ show circuit, is now an unwanted 'Bridesmaid' to a plethora of WWII Fighters. Who could have imagined a possible line up of four L-39 Albatros jets, a Strikemaster and a pair of Mustangs, Spitfires, Kittyhawks, Yak-3s. Add in a Corsair plus other exotica? (That's right folks, a possibility of 10 WWII aircraft.) And that's only the 'heavies'. There's a world-class collection of WWI aircraft available and we haven't considered the General Aviation scene with top line aerobatic displays, the 'classics', the home-builts, and so the list continues.

May 2011: This time one of my 'People Stories', in this case Erich Rudorfer' who's livery graces the Focke Wulf 190 replica based at Omas. Erich was #4 of the German WWII Aces with 222 victories. He flew from day 1 to day 'last' of the conflict with service in France, the Battle of Britain, Africa, Russia and the Defence of the Reich. He was one of the first Jet Aces with 12 victories in the Me 262. Other statistics on this remarkable man include, shooting down six P-40s in 30 minutes (Desert), 13 Russian aircraft in 17 minutes (Eastern Front), and flying over 1000 combat missions during which he 'bailed out' from his aircraft nine times.

September 2012 was a treatise on 'Test Flying', from my days as a maintenance test pilot on 3 Squadron (read innumerable 5-minute rotor smoothing flights), to test flying rebuilt WWII fighters with an emphasis on a Yak-3 project.

January 2013 was a story on the Jet Formation Team put together for Wings Over Wairarapa that year. The team was made up of three L-39s, a Strikemaster and two Vampires. It was quite a logistical exercise to get the aircraft together, pilots practised and develop a 'Show', possibly a first and last for the NZ Air Show circuit.

July 2013: An aeroplane story, the Harvard. It is fair to say the Harvard has been central in my flying career from the RNZAF Wings course to the present. It is big, heavy, noisy and the perfect training platform for the high-performance 'heavy metal' WWII Fighters.

October 2013 saw a continuation on the aeroplane theme, this time the P-40 Kittyhawk. The P-40 is high on my list of favourites. It is an honest, no-frills workhorse and has a strong affiliation to the Pacific War, RAAF and RNZAF. It's also the aircraft I got my 'lucky break' in, when Garth Hogan allowed me to complete a type rating in 'Charlie Alpha Golf' which led to my 'heavy metal' flying.

September 2014 was the turn of the Focke Wulf 190 which I have been fortunate to fly. This aircraft, a Flug Werk replica is based at Omas and I completed an extensive test flying program in it. The Focke Wulf's 'stance' on the ground exudes 'aggression' and this sums up the aircraft. It is big, noisy and rugged. In designer Kurt Tanks words, a "Cavalry Horse".

October 2014 saw a change of pace, the story being of flying a Piper Pacer from Kansas to San Diego to San Francisco. It was a wonderful opportunity for some exotic sightseeing, meeting some wonderful people, not to mention the world's friendliest Air Trafficers – maybe it was the accent?

June 2015 was maybe my nostalgia moment with a story on the 'Huey' and my 15 years of Air Force service with this 'very special lady'. There were experiences throughout New Zealand, the Pacific Islands, Singapore, Malaysia, Australia, Antarctica and the Sinai.

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The Roaring 40s Harvard Display Team in action.



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WWII 'heavy metal'. P-40 Kittyhawk and P-51 Mustang, the "Cadillac of the sky".



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Frank Parker enjoying a stint of Spitfire aerobatics.

Great memories, the odd heart stopper, and fantastic camaraderie; what more could you want?

February 2016: A story of my trip to Reno Air Races a few months earlier. If you are remotely interested in high-speed action this is as good as it gets. Plan a trip to Lake Tahoe and Yosemite while you're at it to make the trip a memory of your lifetime.

August 2016: A milestone story for the NZ Warbirds Association; the purchase of the (prior) Hawker Pacific hangar. This facility, now branded Hangar 2 is the 'front piece' of 'NZ Warbirds at Ardmore'. It houses our WWII and Classic aircraft as well as the main Visitor Centre attractions.

November 2016 was another milestone for NZ Warbirds with the arrival of our first WWI aircraft, a BE.2 purchased from The Vintage Aviator Ltd. The BE.2, though little known, was one of the more important aircraft of the period. It was one of the first aircraft inducted into the military in 'numbers', and the first British aircraft to deploy to France. Its frontline operational record suffered as the Germans developed lightweight 'fighters' (the Fokker Scourge), however, the BE.2 continued in use for training, coastal reconnaissance, and as a night fighter (against Zeppelins). Over 2500 were produced, serving in most theatres of the conflict (Europe, Mesopotamia, Palestine).

February 2017: Another 'airplane' instalment, this time flying the BE.2 referred to above. It is a unique experience to 'pilot' an aircraft of this vintage, akin to driving a vintage car. Their design was by 'idea' and 'line of the eye' (if it looks good it generally flies

good) - empirical design at its best. The BE.2 was revolutionary for its time, as mentioned in the following excerpt:

In this context the BE.2 was a revolutionary design and at the 1912 'British Military Aeroplane Competition' it eclipsed the various types from Hanriot, Vickers, A.V. Roe, Breguet, Bristol, Bleriot, Deperdussin and others, however because the Director of the Royal Aircraft Factory (producer of the BE.2) was a Competition Judge the BE.2 could not be accepted in the Competition. Nonetheless it was accepted to demonstrate. The BE.2's attributes were recognised by the Military and a number ordered for the fledgling Royal Flying Corp.

June 2017 was the turn of the Spitfire, with a treatise on flying this iconic aircraft. Any aviation buff with a hint of British heritage will appreciate the importance of this aircraft and its place in folk law. Here's a snapshot from the text:

At first look the Spitfire has always been admired for its 'lines', sleek, in proportion, graceful, the epitome of everything 'right'. Under that 'beauty' the construction is somewhat complicated. The wing-ribs are built up of a riveted lattice work, the wing-spars a multi-layered box section, with a small 'bend' at the root end to complicate things. That beautiful elliptical wing plan comes at the expense of construction complexity with changing curve lines to be accommodated. Modern restorers equate it to a wooden aeroplane built of metal.

With no Messerschmitt's in sight the Spitfire is a simple aircraft to fly, a piece of aviation history.

July 2018: A follow-on from the theme of the Spitfire article, this time flying the P-51 Mustang. I must admit that the more I fly this aircraft the more I appreciate it; presence, performance, ergonomics and style; the true 'Cadillac' of the sky.

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Ardmore Airfield, Papakura.

January 2019: A further aircraft story but a significant change of pace with the Bristol Scout. This replica of an early WWI aircraft is part of the 'Warbirds' WWI stable. Like so many others the Scout is an unsung hero. Originally designed in 1913 as a 'racing' aircraft it caught the attention of the Military and became one of the early single-seat 'Scout' (ie. reconnaissance) aircraft. Initially unarmed, it transpired the other 'guys' didn't enjoy being 'scouted' (i.e. looked at) so it was only a matter of time before guns became involved. The Scout was one of the test beds for aerial jousting. The first pilot to win a VC in a single-seat aircraft, Lanoe Hawker, was flying a Bristol Scout. The aircraft is a delight to fly and its 1919 vintage Le Rhône engine 'spins like a top'.

July 2020: Aircraft again, this time the Bristol Fighter replica, another of the WWI collection. This aircraft is one of a number built for a movie (High Road to China), however the aircraft were not used in the movie. After 30 years in storage, when purchased this aircraft was semi derelict. Following rebuild it wears the livery of C 814, an aircraft closely associated with one of New Zealand's pre-eminent Airmen, Sir Keith Park. The 'Brisfit' was designed to replace the BE.2 and became a very successful aircraft. Over 5300 were built during a service life from 1916 to 1930.

February 2021: Another aircraft from the WWI stable but this time from the other side, the Siemens Schuckert D.IV. This is another little-known aircraft. In this case a replica built by Carl Swanson in the USA in the 1980s. Swanson built at least twelve WWI replicas in his time. This aircraft spent most of its life in the Planes of Fame Museum at Valle (near the Grand Canyon), Arizona. The SSW D.IV was a 1918 development of an earlier aircraft and only 200 odd were built with only a handful reaching active service. When test-flown by the Allies it was recognised as a top performer. This aircraft has a Gnome 160 hp engine fitted, which is a story on its own! It is a relative 'racer', spritely on the controls and take-off to 1000 feet happens in less than 40 seconds.

It would seem that all I have ever done is scribe stories on aircraft, but that's just the bias of these recollections. There have also been innumerable articles on air shows, open days, aircraft maintenance, and anything aviation to do with 'Warbird' aircraft – all topics of interest to me. [And me and surely the great majority of KiwiFlyer readers too. If readers would like to revisit any of Frank's articles, most are available for free download from the KiwiFlyer website. Ed.]

Frank Parker: Frankly@xtra.co.nz 



Bristol F2B Fighter



Frank in WWI mode airborne from Ardmore, this time in the RAF BE.2.



Bristol Scout



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Crossing the fence in the competition for closest to the touchdown and the stopping marks.

Winter at the Canterbury Gliding Club

Jill McCaw's gliding contribution for this issue returns to the enjoyable times of a good club event, on this occasion Canterbury Gliding Club's Winter Competition Day. Jill writes:

The beginning of winter saw many days with a norwest airflow and the creation of Canterbury's Norwest Arch. Luckily for the members of the Canterbury Gliding Club, many of those days were on a weekend.

After a stunning start to the winter with the flights in the Norwest arch described in the last issue of KiwiFlyer, things, as usual, turned to rain. Before the weather got too horrible however the Canterbury Gliding Club held their annual Winter Competition Day. This event is such a highlight of the club's winter calendar that it even brings out the fair-weather members who have to

dust the cobwebs off their logbooks, and spouses and partners who usually only come to the club for the parties.

The barbeque gas bottle was full, and onions chopped. There were picnic tables and Thomas the Tank Engine (a realistic looking modified golf cart) running around the airfield to amuse the youngsters. There were plenty of children and dogs. Dozens of paper bags had been filled with flour to create 'bombs', and a bullseye marked out at the side of the cross vector. A pampas grass 'fence' had been erected on the field, directly out from the control building where everyone gathers (Kraak Kontrol) so that the crowd could judge the landing techniques. Judges were primed (and possibly bribed). The gliders were ready and lined up on the field. The weather played nice, and it was a lovely sunny winter's day - so, of course, the tow plane did only three flights and then threw a wobbly (technical term).

It turned out to be a serious wobbly, meaning something more than the club experts with the limited facilities available at the club could fix before lunch time. It was declared US. Meanwhile, more people were arriving to try their luck for the prestigious Stu Cain Cup.

No worries, the experts cried. We'll pull out the winch.

The winch was liberated from under the load of dust and spiders in its shed, only for the pundits to discover that a vital part of its engine innards (another technical term) was missing. The part had been taken back to Christchurch by a kind mechanically-minded member for repair. The repair had been done but the member hadn't brought it back because he didn't think anyone was wanting the winch right now. Said member then jumped in his car and roared off back home at warp speed, or as close as could be achieved within the road rules (yeah right).

"Terry Delore and his mate Nigel Ackroyd demonstrated a rather unusual technique of touching down before the pampas fence, bouncing over it to put the wheel on the ground only inches from the touch-down mark and stopping exactly on the stopping mark."

It was getting on for lunch time so the barbie was cranked up. The sun kept shining. Thomas tootled around towing kids on a specially made sled. Dogs chased balls and stared hopefully at the platters of sausages. Members were enjoying the laid-back catch-up.

About 1.30 the missing engine part was back on the field and inserted. Around 2pm the winch was towed down the end of the field and declared ready to go. The day was once again underway.

There were five prizes on offer, and all could be competed for in the one flight: closest to the touchdown mark, closest to the stopping mark, shortest landing, best bomber pilot and the Stu Cain Cup for best overall pilot. All flights were flown in the club two-seaters so that even the newest student could compete; the instructors being only as hands-on as needed for safety. Some of the more (very) experienced pilots teamed up to fly together. Terry Delore and his mate Nigel Ackroyd demonstrated a rather unusual (and don't try this at home) technique of touching down before the pampas fence, bouncing over it to put the wheel on the ground only inches from the

touch-down mark and stopping exactly on the stopping mark. NOT a technique that should be attempted for a real fence and please, no one try to copy it. It did however win them the prize for closest to the stopping mark.

The day finished with a dinner down the road at the Sheffield Pub and the giving of prizes. It was a great fun day out which of course is what it was meant to be. There is however a more serious point behind the day. As pointed out in this column many times over the years, gliders don't get to do a go-around. Every approach needs to be well set up and controlled and every landing needs to be precise, every time. Gliders don't get second chances. Turning these serious skills into a fun activity is a great thing to do on a winter's day when soaring flights aren't on the cards.

If any of you would like to have a go at a no-engine no-second-chances attempt to land on the spot, please do give your local gliding club a call.

If you'd like to experience the joy of soaring and wave flying, reach out to your local gliding club and sign up for lessons.

Jill McCaw 

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2021 FAI award recipients honoured

The Fédération Aéronautique Internationale (FAI / World Air Sports Federation) awards to New Zealand recipients are presented every year at the Flying NZ Awards Dinner. This year, it happens that three of the recipients are also KiwiFlyer contributors. Special congratulations to Grant, Graeme and Pauline in that regard. Liz King contributed the below citations which detail the significant contributions to aviation that this year's recipients have made. Liz says, "Flying NZ is delighted to present to you the recipients of FAI Awards and a National Speed Record presented at the Awards Dinner held on 17th July 2021 in Wellington. We extend hearty congratulations to all."

Pauline Hickey

Balloon Aviation Association NZ
FAI Paul Tissandier Diploma 2020

Pauline Hickey has been involved with Hot Air Ballooning for over 30 years. Her love of ballooning and enthusiasm has brought many pilots and crew into the sport. Three New Zealand commercial balloon pilots owe the start of their careers (and for two, their international careers) to Pauline who piqued their interest, offered rides, and assisted with their training.

Pauline has been the Balloon Aviation Association of New Zealand's Treasurer for over 15 years, has written published articles on ballooning, and has been a key-note speaker at several NZ Association of Women in Aviation events. She has represented New Zealand in many international locations in both competition and fiesta flying in the USA, Australia, UK and Europe and currently holds the New Zealand Women's Altitude record. Pauline is a great supporter of all balloonists and is always available when anyone needs ballooning advice.

Rene Redmond

Model Flying NZ
FAI Air Sport Medal 2021

Rene Redmond started his career in the RNZAF where he was an engineer and which likely accounts for his enduring love for jet engines. Following several years in the Air Force, he suffered an accident which left him in a wheelchair and resulted in the end of his service career. Undaunted,

he established himself as shop owner, selling all things model aircraft. His premises in Palmerston North became a mecca for hobbyists seeking not only to buy items but to draw on the depth of advice that is freely given. At the same location, he and Lew Woods established a new venture, Skycam UAV which developed the use of remote controlled aircraft for aerial surveillance work. These aircraft were successfully sold to the military and academia.

Rene manages the authorisation, inspection and certification of approximately 400 large model aircraft owned by of Model Flying NZ members and is the club's primary link with the CAA. He is closely involved with the running of his local club and his home workshop has a never-ending stream of visitors seeking advice and help. Rene has also recently restored a full-size jet engine which he delights in running in a test stand. He has taken this to shows and mesmerised countless young (and older) people running the engine up within touching distance.

Grant Benns

NZ Aerobatic Club
FAI Air Sport Medal 2021

Since the early years of the Great Stunt Company (ZK-MAD) syndicate, Grant Benns has been a stalwart of the aerobatic scene in NZ. He is a NZ Warbirds approved aerobatic instructor and has trained countless aerobatic pilots. And he is a 'go to guy' for a Pitts Special rating having trained many of the former Queenstown commercial aerobatic pilots.

During competitions (many organised by himself), Grant also frequently acts as Safety Pilot for new competitors often to the detriment of his own competitive flights. He has organised (or assisted) and competed in most if not all of the NZ Aerobatic Club National Championships over the last couple of decades, often with success.

Grant has held multiple roles in the NZ Aerobatic Club including President and Vice President, Contest Organiser and Contest Director and can often be seen judging between his own contest flights. He is often (if not always) the first to arrive at a competition, leading the



Grant Benns with Bob Henderson



Pauline Hickey



Rene Redmond



Andrew Simms with Bob Henderson

team laying out the box markers, and after the competition he's out retrieving the box markers and often the last to leave. He has travelled to Australia to assist with judging in their National Championships.

Grant is always approachable, extremely knowledgeable, great with making all feel welcome, and also writes articles promoting sport aerobatics and safety within the sport. Plus he has a fulltime career as an A320 captain for Air NZ and a fledgling interest in driving a race car (built and prepared by himself).

Andrew Simms

Wellington Aero Club
FAI Air Sport Medal 2021

Andrew has always been a keen supporter of getting youth into aviation. His interest in the Walsh Memorial Scout Flying School extends back to being a 'Walshie' from his first time attending as a student in 2004 through gaining his PPL to attending as a Student Leader and then from 2009 onwards attending as an Instructor - only missing 3 years across the 17 year period.



Graeme Frew with Tony Page



Tony Page with Bob Henderson

Andrew has held CFI roles at HeliPro and Wellington Aero Club, and is well known in aviation circles as a professional, enthusiastic and supportive instructor. Andrew's expertise is sought by others and he is always happy to offer advice. Not one to draw attention to himself, people talk about how "Andrew knows what to say and how to say it". Andrew relates to a wide range of people and is skilled at creating a relaxed but safety-conscious environment, as well as being a passionate advocate for clubs, instructors and pilots.

Graeme Frew

NZ National Speed Record Holder

After many false starts due to COVID-19 constraints, Flying NZ was finally able to make a special presentation to Graeme of a Certificate and Letter confirming his New Zealand National Speed Record set in February 2020.

Graeme's record is over a 3km course for aircraft class C-1d being under 3000 kgs which he set in his Yak-3 'Full Noise' at Oreti Beach, Invercargill on 7th February 2020. Graeme's speed, ratified by the RNZAC to the appropriate FAI standard, was 559 km/hr.

Bob Henderson

Gliding NZ
FAI President of Honour

Flying NZ President Tony Page presented Bob Henderson with the FAI Certificate confirming his appointment as an FAI President of Honour. This was awarded to Bob at the FAI General Conference in 2020 at the end of his term.

The Conference was by Zoom and the certificate was then sent to NZ FAI VP Liz King. The Flying NZ Awards evening provided the ideal opportunity to publicly recognise Bob's service to FAI. He is the only New Zealander to have been FAI President and to receive the President of Honour appointment.

Bob's appointment was made by members' vote at the FAI General Conference and recognises his service history to the FAI which spans more than 25 years in numerous roles including as an Executive Board Member of FAI and as Chair of the FAI Air Sports Marketing and Events company.

Liz King

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With more than 24,000 hours on the hobbs and about 12 engine changes, BNL remains with Canterbury Aero Club as perhaps the oldest single-owner Piper Super Cub in the world.



The official opening ceremony at West Melton Airfield in 1971

Celebrations at Canterbury Aero Club

planned for September 25th

“A jewel in the Crown and a Darling of the Fleet.” Those are Canterbury Aero Club’s endearing terms for their West Melton Airfield and their beloved Super Cub ZK-BNL. On September 25th 2021, both the Club and the Cub will celebrate milestone anniversaries, a 50th for the airfield and a 65th for the aircraft.

BNL will take to the skies “as many times as she and we can manage,” says the club’s West Melton Branch Chairman Paul Jarman. There will be a fly-in by classic aircraft of BNL’s vintage, plus those that were in the club’s fleet in 1971 and are still airworthy. The club’s Resurgent Pilots group of retired pilots and former members will fly, there will be competitions, formation

flying, a drive-in of classic cars, an archival display and a fly past by BNL’s sibling Cubs along with Austers.

“The foresight of then President Bill Morrison and Ops Manager Norm Gibson to search for suitable airfield development land back in 1969 calls for continuing recognition,” current President Geoff Brodie says. The Minister of Defence had advised there would be no return to the club’s original home at Wigram and the club wanted a satellite field away from its main base at Christchurch Airport which was subject to increasing activity.

A block of 202 acres was selected, the purchase negotiated, Council and CAA approval granted, and so began many months of earth moving - not to mention stone picking by volunteer labour. The field was officially opened on an “ice-cold” day in 1971 by then Minister of Transport, Peter Gordon.

Today the field has six runway vectors to cope with Canterbury’s variable winds (four were developed for the opening), the greater part of the main runway 04/22 is sealed, and there are some 25,000 movements per year. It is a flying and social base for members and it is maintained by an extraordinary volunteer effort.

Earlier this year, the club hosted the very successful Flying NZ Nationals at West Melton in a week of perfect weather.

After another energetic day at the celebrations, BNL will have her cake at a dinner held at the Club’s Sir Henry Wigram Lounge, Christchurch to celebrate both birthdays. Guest speaker will be well-known South Island aviator Laurie Prouting whose uncle, also Laurie Prouting, was involved in the sale of the West Melton land 50 years ago.

The club welcomes all friends and visitors to join in the celebrations on September 25th. More details at www.cac.co.nz



Annual Conference
Intercontinental Hotel
Wellington 27th - 28th September 2021

Welcome Message

Welcome to everyone attending this year’s Aviation Conference at the Intercontinental Hotel in Wellington.

Much has changed since we last met as an industry in Auckland in August 2019. Words such as Coronavirus, COVID-19, lockdown, alert levels, COVID support programmes, MIQ, Zoom and Teams have become a normal part of vocabularies. Parts of the industry have been devastated since the border was closed in March 2020 ‘to keep people healthy and safe’.

Companies serving the domestic market, especially the agricultural industry, have coped pretty well with a small reduction in the hours flown year on year. Companies serving the international market have seen up to 95% of their business disappear. Various forms of Government assistance have helped many companies ‘get through to now’ but with no certainty on when borders will open, many companies, understandably, have not been prepared to seek the short term Government backed loans available. Basically, if you don’t know when your customers can return, why would you go further into debt?

It has been very clear though that as people and companies manage through the impact of COVID and the closed border, the wish to meet industry colleagues has grown stronger and stronger. Meeting by Zoom, Teams and other platforms is one thing. But it is no substitute for face to face meetings and relaxing over a few drinks and food.

So, we are holding a conference in 2021 despite the challenges that surround us. Several international speakers will attend the conference by Zoom. We’d prefer they were here, but this is one way we can bring that international perspective and knowledge to conference attendees.

Dr. Michael Winter, senior fellow for Advanced Technology at Pratt and Whitney, will talk on future propulsion systems in aviation, especially GA - Synthetic Aviation Fuel (SAF), electric, hybrid and hydrogen.

Eliot Lees from ICF North America will talk about the outlook for electric training aircraft and separate myth from reality.

Capt. Matt Gray, Director, Airpoint Systems will talk about Human Factors: scanning, eye tracking and the potential for flight training.

A very good speaker from the Auckland conference, Claude Vuichard will be back but this time by Zoom from Switzerland.

A wide range of excellent local speakers will be presenting too, on some quite technical subjects.

The trades area is back, but smaller than usual and missing our international friends.

We’ll be recognising some of our best and brightest at the Awards Dinner with CAA.

Enjoy the socialising too, catching up with old mates and making new friends. It is often that informal talking which brings the real benefits of conferences.

If you have questions or need help, just ask us: Andrew Nicholson (027 280 2008), Bill MacGregor (027 436 0022) or me (027 600 9156). We look forward to catching up with you.

John Nicholson, Chief Executive, Aviation NZ.

Why Attend?

- **Get Insights**
into what the future holds and its implications for your business.
- **Understand**
how you can be more effective in your business.
- **Learn**
from industry experts who share practical knowledge.
- **Connect**
with people who can help improve the way you do business.
- **Meet**
new business prospects.
- **Share**
experiences with business people from New Zealand, Australia, and around the world.

REGISTRATION

For more information on the conference, accommodation, or to register as a Delegate, visit aia.org.nz and follow the directions from the home page.

TRAINING DAYS

Sunday 26 September

Pilot Chemical rating refresher course

Wednesday 29 September

CRM/Wire avoidance course

COVID UPDATES

We are watching the COVID-19 situation and alert levels and regularly reviewing their potential impact on the conference. Should it be necessary to postpone the conference, we will defer to another indicative date but still hold the Aviation NZ and relevant divisional AGMs in late September.



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Monday 27 th September		Plenary Session			Preliminary at 1 st September
0830	Registration				
0900	Plenary begins. Greg Ward, MC.				
0910	Welcome. Lloyd Matheson, President of Aviation NZ.				
0915	The economic situation and outlook. Brad Olsen, Director, Infometrics.				
0945	The current and future policy outlook. Speaker TBA, MoT.				
0955	The current and future regulatory outlook. Keith Manch, Director, CAA.				
1010	Policy and regulatory Q&A with MoT and CAA. Keith Manch and David Harrison, CAA; Speaker TBA, MoT.				
1030	Morning Tea in Trades Display area				
1100	Future propulsion systems in aviation, especially GA - SAF, electric, hybrid & hydrogen. With Q&A. Dr. Michael Winter, Senior Fellow for Advanced Technology, Pratt & Whitney.				
1130	Future airspace, unmanned aircraft, their future role and integration, including performance, operator competence and maintenance. Jude Rushmere, Programme Manager- Airspace Integration Trials, MBIE; Isaac Henderson, Chair, UAVNZ; Camercon Baker, Director, Envico.				
1230	Lunch in Trades Display area				
	NZAAA Fixed Wing	NZAAA Rotary	NZHA	T&D	AEANZ / E&S
1330	Fertilisers, fertiliser placement, ballistics, lime flowability test results. Airstrip standards & use of airstrips. Sharing safety info. Managing third party risk.	NZGFA update Regional & District Plans Northland Regional Plan & implications NZS8409 Update, Changes & What NZS8409 means to NZ.		Human Factors: scanning, eye tracking and the potential for flight training. Capt Matt Gray, Director, Airpoint Systems and Pat Nolan, GM Aviation, Seeing Machines	The determination of Major and Minor repairs, mods etc. Technical Data use, acceptance and approval. The privileges of IAs and licence holders, privileges of Major licence holders. The maintenance program, a common approach to documentation? Maintenance records, what is required? What is acceptable? With Warren Hadfield, Chief Advisor Airworthiness & Jason Ashworth Manager Certification Aircraft and Products, CAA.
1430	Safety Stats & incident trends Joe Dewar, Manager Intelligence, CAA.		Part 141 Risk profile		
	An accident case study, TAIC.				
1500	Afternoon Tea in Trades Display area				
1530	Incident review (closed meeting)		TBA	Growing the profile of aviation as a career (workshop)	
	AGM				
1700	Networking Function				

WHAT'S HAPPENING AT CONFERENCE

The theme of Challenges and Solutions for Aviation - runs through the plenary (Monday and Tuesday mornings) as well as through the divisional conferences (Monday and Tuesday afternoons). This year, we also have a very good range of practical workshops and training programmes. This includes a major focus on SMS - what does operating and effective look like and on activity levels, incidents and accidents. Delegates will come away from these and other sessions much better informed as to what they can do in the future to improve personal and company performance. Breaks during the conference will be held in the trades hall. The conference will conclude with the Awards Dinner on the Tuesday. Training days are also being held on the Sunday before conference and on Wednesday following the conference. For more information visit www.aia.org.nz

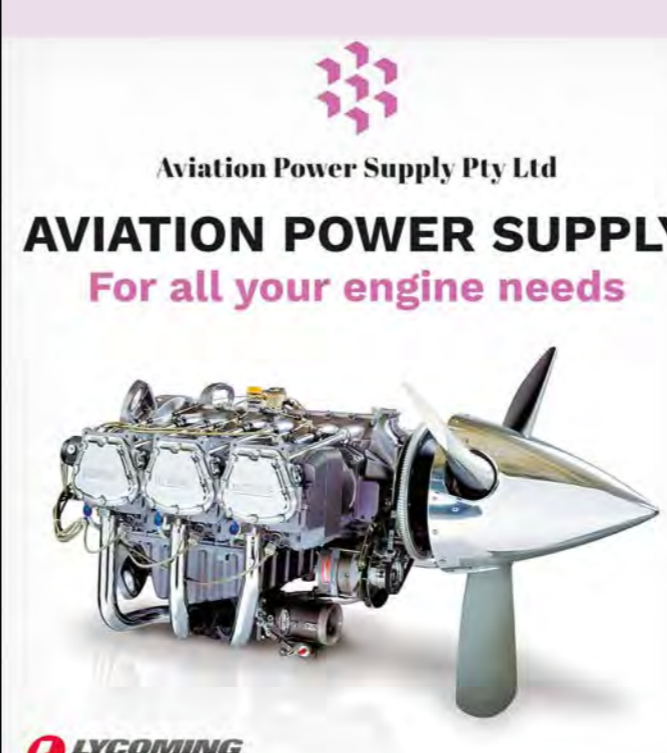
AWARDS DINNER

The aviation industry will recognise its best and brightest at an Awards Dinner on Tuesday evening. Sponsored by Go Fuel/Petroleum Logistics, this black-tie event (medals should be worn) will be held at The Intercontinental Hotel too. The Awards Dinner is included in full conference registration but tickets can also be bought separately.

HIGHLIGHTS AT CONFERENCE

There will be many, including the number of interactive discussions, and the constructive and practical advice being provided by several speakers. Importantly, it is a chance to mix and mingle with the leaders of today and tomorrow. Learn from them and grow your business. We look forward to seeing you there.

Tuesday 28 th September		Plenary Session			Preliminary at 1 st September
0830	Registration				
0900	Plenary begins. Greg Ward, MC.				
0910	The Government and Aviation. Hon. Michael Wood, Minister of Transport.				
0940	Aviation NZ AGM				
1030	Morning Tea in Trades Display Area				
	Aviation SMS, Operating and Effective, what does it look like? Workshop with Scott McKenzie, Penny Mackay and John Sinclair. Further details TBA.				
1100	Opposition Politician TBA				
1230	Lunch in Trades Display Area				
	NZAAA Fixed Wing	NZAAA Rotary	NZHA	T&D	AEANZ / E&S
1330	Operational Service Specifications FENZ/DOC/MPI Risk Management Processes The standards expected and ARENA The role of both fixed wing and rotary wing Cameras and other equipment (including cost recovery)			Safety stats & incident trends. Joe Dewar, Manager Intelligence, CAA. An accident case study, TAIC.	
1430				The outlook for electric training aircraft, myth and reality. Eliot Lees, ICF North America.	
1500	Afternoon Tea in Trades Display Area				
1530	Who Would Want to be a Farmer? Presentation followed by general discussion/issues and the future of Ag. Aviation.		Claude Vuichard Safety Update Presentation and discussion via Zoom	AGM followed by Open Forum Where are we at? How do we feel?	Discussion Finance and Funding AGM
1630			AGM		
1900	Awards Dinner with CAA				



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ZK-RXX Magni Gyro M22



New Zealand's first Rotax 915 powered Magni Gyro has been brought into the country by Chris Crosse from Napier. Chris a very busy commercial helicopter pilot who wanted a gyro so that when he stops flying helicopters, he will be still be able to enjoy rotary-wing flying but in a machine that is affordable.

The Magni M22 Gyro is produced by Magni Gyro, an Italian manufacturer founded by Vittorio Magni in 1986. The M22 is a tandem 2 seat open cockpit (not dual control) design constructed of a Chromoly airframe and carbon fibre 'cabin', undercarriage and spats.

This M22 is powered by the 141 hp Rotax 915 engine turning a carbon-fibre French propeller for a Vne of 87 kts. The main rotor diameter is 28 feet.

ZK-RXX arrived in Napier but is now with NZ Magni dealer Peter Avery of Jacksons Bay where he has been flying it and loving every minute – the story is he enjoys flying gyros so much that he has been flying to log up to 25 hours in two days. Chris says he is really looking forward to being in the aircraft himself and flying around the mountains for fun instead of work.

ZK-CRO WSK-Okecie PZL-101A



Recently arrived from Hungary is this PZL-101A, now registered to BOP Marine Life Trust of Tauranga. An associate of the trust says they saw this aircraft for sale in Hungary whilst looking for a rugged utility plane to explore the back country and to land on beaches.

The PZL-101 Gawron is a Polish

agricultural and utility aircraft designed and built by WSK-Okecie and was a development of the Yakovlev Yak-12M. Their main goal was to create an agricultural aircraft with increased useful load. From 1962 the PZL-101A variant was produced, with improved equipment, a raised pilot's seat and a right-side door added.

Construction is of a steel frame covered with Duralumin (front) and canvas (tail). Wings are canvas covered, fitted with slotted flaps and slats.

This four-seat tail dragger was mainly used for air ambulance and agricultural work. One appeal for the trust was that it looked like a baby Beaver but was much more affordable than a Beaver. Powered by a single 260 hp radial engine with a two blade propeller, most systems are air operated - this was so that they didn't freeze in winter.

The registration ZK-CRO was chosen because Gawron means rook in Polish so CRO therefore stands for 'crow' and the plane will be referred to as "the old crow". The overall condition of the aircraft is pretty good, and the inside is original with traditional switches. The trust hopes to repaint the outside at some

ARRIVALS May - June

CRO WSK-Okecie PZL-101A
 EXX Cessna 208B
 FBT Lindstrand LTL Series 1-300
 IBO Innovator Mosquito XE
 IBP Bell 206B
 IBU Bell 206B
 IBY Eurocopter AS 350 B
 IWR Hughes 369FF
 KRD Cessna 180C
 MMG Cessna T206H
 MOM Curtiss P-40E
 MWK Aeroprakt A-22LS
 RJR Tecnam P92 Echo MkII
 RPL Rotor Hawk Falcon 1
 RXX Magni Gyro M22
 SKD Cessna A185F
 TNY Cameron O-31
 WAT Maule MX-7-160

TRANSFERS May - June

ATN De Havilland DH 82A Tiger Moth
 BCO De Havilland DH 82A Tiger Moth
 BFK Cessna 120
 BMY De Havilland DH 82A Tiger Moth
 BZU Cessna 172B
 CER Rans S6S Coyote II
 CTL Diamond DA 42
 CUE Piper PA-28-180
 CXM Cessna 177B
 DCD Cessna 182H
 DGG Piper PA-28-180
 DIH Anderson EA-1 Kingfisher
 DJQ Jodel D.11 UL
 DOT Piper PA-28-151
 DRJ Cessna A150M
 DRN Cessna 172M
 DTC Micro Aviation Bantam B22S
 DUX Zenair CH701 STOL
 DYA Aerospool Dynamic WT9
 EBK Piper PA-28-180
 EDJ Beech V35B
 EFA Cessna 172M
 EFP Piper PA-28-140
 EGI NZ Aerospace FU24-950
 EYI Piper PA-38-112
 EKP Cessna 172M
 EKR Piper PA-28R-200
 EMG NZ Aerospace FU24-954
 EPH Pacific Aerospace 750XL
 EPK Pacific Aerospace 750XL
 EPP Pacific Aerospace FBA-2C3
 EQB Piper PA-38-112
 FJH Cessna P206E
 FLD Zenith Zodiac CH 601-XL
 FOY Thruster Aircraft Gemini 503TC
 FTH Micro Aviation B22 Bantam
 GBZ Schempp-Hirth Ventus-2cT
 GCK Schempp-Hirth Ventus-2cT
 GHG Schleicher ASH 31 Mi
 GIH Schempp-Hirth Standard Cirrus
 GIL Rolladen-Schneider LS 3-a
 GIV Glaser-Dirks DG-300 Elan
 GNP Grab G103 Twin II
 GOD Schempp-Hirth Duo Discus
 GSW Schempp-Hirth Ventus cT
 GTR Stemma S 10-VT
 GTX Schempp-Hirth Ventus cT
 GWD DG Flugzeugbau DG-808C
 GYK Schempp-Hirth Discus-2b
 HBG Bell 206B
 HBW Eurocopter AS 350 B2
 HCO Robinson R44 II
 HEB Robinson R22 Beta
 HGL Robinson R44
 HGP Hughes 269C
 HLB Eurocopter AS 350 B2
 HLT Hughes 269C
 HLT Hughes 269C
 HLU Guimbal Cabri G2
 HNX Eurocopter AS 350 B2
 HNY Bell 206L-4
 HQL Hughes 369HS
 HRC Hughes 369E
 HSO Eurocopter AS 350 B2
 HUB Robinson R44 II
 HWP Robinson R44 II
 HYN Aerospatiale AS 355 F1
 HYO Eurocopter AS 350 B2
 ICP Robinson R44 II
 ICR Eurocopter AS 350 B2
 IDI Eurocopter AS 350 B2
 IEZ Robinson R44 II
 IGD Bell 206L-3
 IKY Robinson R44
 IPA Robinson R44 II
 IRD Aerospatiale AS 355 F1
 ISK Aerospatiale SA 315B
 ITH Robinson R44 II
 ITK Bell 206L-1
 IZD Guimbal Cabri G2
 IZM Guimbal Cabri G2
 JAG Pitts S-2A
 JDV Cessna U206G
 JDY Thatcher CX4
 JDZ Pacific Aerospace CT/4E Airtrainer
 JHF Piper PA-38-112
 JJI Micro Aviation B22 Bantam 700E
 JKS Aerachute Aerachute Dual Deluxe
 JMG Cessna 172S

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The KiwiFlyer Event Guide

September 25th - 26th
Canterbury Aero Club Celebrations
 At West Melton. Airfield's 50th and Super Cub BNL's 65th. More details on page 52.

September 26th
Daylight Saving Fly-in
 At Hawera. Spot prizes. No landing fees. Lunch for \$10 pp. Contact Beverley Prankherd: prankherdclan@xtra.co.nz

September 27th - 28th
Aviation NZ Conference
 At Wellington. More details on page 53.

October 8th - 10th
Have a go at Aeros
 At Mercer. Get a taste, extend your skills or have a go at competition-style aerobatics. See News Briefs in this issue for more details. More information is on the NZ Aerobatic Club Facebook page and website.

November 11th - 13th
100 Years of Aviation in Nelson
 Celebrating centenary of first flight in Nelson including anniversary dinner. Contact Richard Waugh: rjw@ecw.org.nz

November 21st
AOPA Xmas Fly-in
 At Turangi. All welcome with no landing fees. BBQ lunch and drink for \$15 pp. Rain day 28th. Contact Alan Turner on 021 458375

December 2nd - 4th
South Island Akro Fest
 At Ashburton. Aerobatic Competition and Fly-in. All welcome. Contact Andrew Love on 021818816, torque_roll@hotmail.com

January 22nd
Stratford Sport Flyers Open Day
 At Stratford. Contact Luke Venables luke.venables@live.com.au

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stage. Presently they are waiting for CAA to finish up the paperwork and then five hours of test flying can start in the experienced hands of Dave Brown.

ZK-RJR Tecnam P92 Echo MkII



Arriving into New Zealand in September is the latest P92 Echo from Tecnam. This is the Mark II version and will be local agent Neil Ross' demonstrator aircraft. Neil has been involved with Tecnam since 2008 and currently flies the Tecnam Eaglet ZK-TNZ.

Tecnam aircraft are very prevalent on the NZ register and need little introduction. Popular since its launch in 1994, the two-seat P92 has always been several steps ahead of its time. This latest version features advanced technology, glass

avionics and composite fuselage, while retaining the same pleasant flying qualities that have earned it a reputation as a safe, easy to fly aeroplane. Neil says it is extremely well built with a stylish interior, and is very highly spec'd but still good value for money.

The aircraft has a composite fuselage with all-metal wings for more flexibility, also being easier to inspect and fix if required. The roomy cockpit features fully adjustable seats and a spacious baggage compartment with internal access. A newly redesigned panel now includes standard analogue instruments as well as the Garmin G3x touch suite featuring two 10.6 inch screens, a transponder with GPS, ELT, and more.

ZK-RJR will be powered with the extremely reliable 100hp Rotax 912 turning a Sensenich 2-blade fixed-pitch propeller, providing a max cruise at 115 kts using 17 litres per hour for a range of approx. 430 nm. Neil will register RJR as a LSA once it arrives in September and has been assembled by Solo Wings in Tauranga. After the usual test flying, RJR will be available for demonstration flights around New Zealand.

ZK-IBO Innovator Mosquito XE



Joe Veza from Red Beach is a retired engineer with engine designing experience and a passion for different technologies. With that background, the idea of building a helicopter was very appealing. So Joe bought a kit in from Florida and only one year or 850 hours later his Innovator Mosquito XE helicopter is now finished.

The Mosquito Aviation XE is a single seat homebuilt helicopter being produced by Composite FX of Trenton, Florida. The aircraft was designed to comply with the US experimental /amateur-built and European microlight aircraft rules. It features single main and tail rotors, a single-seat semi-enclosed cockpit, skid landing gear and a two-cylinder, air-cooled, two-stroke 64 hp German designed Hirth

engine. Normal cruise speed is 60 mph and maximum is 80 mph.

The aircraft fuselage is made from composites and metal tubing. The main rotor has a diameter of 5.95 m and a chord of 17 cm. The aircraft has a typical empty weight of just 135 kg and a useful load of 145 kg. With full fuel of 45 litres that leaves 112 kg for pilot and baggage.

Joe says he really enjoyed building this helicopter and would build another. Presently IBO is finishing off its ground running and checks and will then be inspected and signed off by Joe's engineer. CAA will then come and complete their inspections before the first test flight.

ZK-FBT Lindstrand LTL Series 1-300



Newly registered to Sunrise Balloon Adventures Ltd of Queenstown, ZK-FBT was built by Lindstrand Technologies Ltd., a company founded by Per Lindstrand after Lindstrand Balloons Ltd. which was taken over by Cameron Balloons.

Lindstrand Technologies initially focused on producing various fabric engineered structures including inflatable temporary hangars for fighter aircraft and static helium observation balloons. Hugh McLellan of Sunrise Balloons took a ride on one in Bournemouth which was controlled by a winch and ascended to about 400 ft to take in the views along the coast. Lindstrand also construct inflatable flood walls which have proven very effective at controlling flood waters up to 2 metres deep. And they also built a parachute for the British Mars Lander which apparently worked very well but the lander didn't!

When Lindstrand Balloons was wound up by Cameron Balloons a few years ago, Per Lindstrand decided to re-commence balloon production of which FBT is an example. It has an envelope of 300,000 cu ft and can carry up to 2650 kgs although is limited to a maximum 18 POB.

Initially ordered in 2019, FBT was held up by COVID and only arrived in NZ in December of 2020. FBT's first flight is due as these words are going to print.

TRANSFERS continued May - June

JQI	Maulé M-5235C	Mr M A Guerin	Fairlie	Aeroplane
JRM	Zenair CH701 STOL	Mr B S Taylor	Whangarei	Microlight Class 2
JTC	Piper PA-38-112	Hawkes Bay & East Coast Aero Club	Hastings	Aeroplane
KFA	Tecnam P2002 Sierra UL	Mr S A Hyde	Christchurch	Microlight Class 2
KIG	Solo Wings Windlass Aquilla	Mr W E Lindebaum	Christchurch	Microlight Class 2
KJV	Beech 58	Schick Civil Construction Limited	Hamilton	Aeroplane
KNI	Rans S65 Coyote II	Mr Harvey	Invercargill	Microlight Class 2
LAP	Zlin Aviation Savage	Mr S J Lytle	Timaru	Microlight Class 2
LDL	Gardan GY20 Minicab U/L	Mr S N Campbell	Hastings	Microlight Class 2
LFD	Aeroprakt A-22LS	Mr G E Arnel	Hamilton	Microlight Class 2
LFG	Aeroprakt A-22LS	Ak Regional Microlight Aircraft Club	Auckland	Microlight Class 2
LFP	Aeroprakt Aeroprakt-22LS	Cardcreek Helicopters Limited	Greytown	Aeroplane
LPI	Alpi Aviation Pioneer 200	Mr D L Ainslie	Arrowtown	Microlight Class 2
MAJ	Piper PA-38-112	Walsh Aviation Support Society Inc	Richmond	Aeroplane
MEC	Beech 35-C33A	Mr B C Lucas	Kenikeri	Aeroplane
MGB	Cessna 182H	Mr T L Gibb	Franz Josef Glacier	Aeroplane
MGU	Cessna 182P	Mr K J Mills	Warkworth	Aeroplane
MKL	Quad City Challenger II	Mr R S Power	Whakatane	Microlight Class 2
MLY	Cessna 172	Mr C B McKenzie	Blenheim	Aeroplane
MRL	Cessna 177B	Mr P C Tollemache	Alexandra	Aeroplane
MWR	Magni Gyro M24	Nutech Security Limited	Papamoa	Gyroplane
OBH	Zenith Zodiac CH 601-XL	Mr Venables	New Plymouth	Microlight Class 2
OHS	LMA LMA-5XW	Mr M W Reed	Tuakau	Microlight Class 2
PCL	Avid C/Mk.IV STOL UL	Mr A D Kay-Taylor	Warkworth	Microlight Class 2
PDN	Vans RV-8	SGM Syndicate	Whangarei	Amat Built Aeroplane
PDW	Fisher Aero Corp Horizon II	Mr P M Kelly	Gore	Microlight Class 2
PNX	Pacific Aerospace 750XL	Super Air Limited	Hamilton	Aeroplane
PPA	Piper PA-25-235	The Marlborough Gliding Club (Inc)	Blenheim	Aeroplane
PUB	Micro Aviation B22 Bantam	Mr R B McPhail	Westport	Microlight Class 2
RPM	Cessna U206F	Hopper Developments Limited	Orewa	Aeroplane
SBR	Micro Aviation B22 Bantam	Mr H W Bradley	Tauramunui	Microlight Class 2
SCN	Alpi Aviation Pioneer 300	Pioneer 300 Limited	Papakura	Microlight Class 2
SID	Cessna 182T	CBC Partnership	Whitianga	Aeroplane
SLM	Cessna 180K	Air Wanaka Limited	Cromwell	Aeroplane
SOD	Foxcon Aviation Terrier 200	Mr J Cuthbert	Dunedin	Microlight Class 2
SUZ	Pacific Aerospace Cresco 08-600	Rural Air Work Limited	Otane	Aeroplane
SVY	Reims-Cessna FA337F	Price Family Syndicate	Dunedin	Aeroplane
TKP	Fly Synthesis Texan Top Class	Mr B S Taylor	Whangarei	Microlight Class 2
TQW	Solar Wings Pegasus XL-R	Mr Harper	Rangiora	Microlight Class 2
VCE	Alpha R2160	Flighttech Limited	New Plymouth	Aeroplane
VMC	Europa Europa XS UL	Mr I S Hart	Christchurch	Microlight Class 2
WPO	Cessna 172A	Mr D F R McMillan	Kaikohe	Aeroplane
XMC	Wittman Tailwind W.8UL	HRH Syndicate	Auckland	Microlight Class 2
XRD	Vans RV-3 U/L	Mr A R Turner	Auckland	Microlight Class 1
YHK	Diamond DA 40	Private Owner		Aeroplane
ZAN	Cessna 172S	Tauranga Aero Club (Inc)	Mount Maunganui	Aeroplane

DEPARTURES May - June

CHI	Cessna 150D	Mr D F Hyland	Hampden	Aeroplane	Rev
CMK	NZ Aerospace FU24A-950	Ravensdown Aerowork Limited	Wanganui	Aeroplane	W/d
CML	Fletcher FU24-950M	Super Air Limited	Hamilton	Aeroplane	W/d
COM	Cessna 172G	ZK-COM Syndicate	Gore	Aeroplane	Dest
CSG	Diamond DA20-C1	L3 CTS Airline Academy (NZ) Ltd	Hamilton	Aeroplane	Exp
CSH	Diamond DA20-C1	L3 CTS Airline Academy (NZ) Ltd	Hamilton	Aeroplane	Exp
CSI	Diamond DA20-C1	L3 CTS Airline Academy (NZ) Ltd	Hamilton	Aeroplane	Exp
DLM	Grumman American AA-1C	Mr B H Wigley	Auckland	Aeroplane	W/d
DZN	NZ Aerospace FU24-950	Ravensdown Aerowork Limited	Wanganui	Aeroplane	W/d
EME	NZ Aerospace FU24-950	Super Air Limited	Hamilton	Aeroplane	W/d
EMW	NZ Aerospace FU24-954	Super Air Limited	Hamilton	Aeroplane	W/d
EUH	NZ Aerospace FU24-954	Ravensdown Aerowork Limited	Wanganui	Aeroplane	W/d
FBL	Lindstrand Balloons LBL 260A	Sunrise Balloon Adventures Limited	Queenstown	Balloon	W/d
FMF	Micro Aviation B20 Bantam	Mr FR Price	Papakura	Microlight C1	W/d
FNC	Aircraft Specs Hovey Delta Hawk	Mr M W Jefferies	Morrinsville	Microlight C1	W/d
GHG	Schleicher ASH 31 Mi	Sailplane Services 2005 Limited	Drury	Glider	Exp
GNG	Grob G102 Standard Astir III	Glider Rentals Limited	Omarara	Glider	W/d
GOA	Schleicher ASH 25 E	Mr P J Halstead	Blenheim	Power Glider	Exp
HMK	Rotorway Exec	Mr A W Meyer	Taupo	A/B Helicopter	Rev
HUU	Bell 429	Bell 429 Operator Limited	Australia	Helicopter	Exp
IPN	Robinson R44	Mr J Russell-Gibbs	Porirua	Helicopter	Rev
ISC	Robinson R22 Beta	Simon Peter Clark / Lifestyle Aviation	Auckland	Helicopter	Rev
JLU	NZ Aerospace FU24-950	Super Air Limited	Hamilton	Aeroplane	W/d
JQB	NZ Aerospace FU24-950	Super Air Limited	Hamilton	Aeroplane	W/d
JSV	NZ Aerospace FU24-950	Phoenix Aviation Limited	Gore	Aeroplane	W/d
LJH	NZ Aerospace CT/4A Airtrainer	Mr M F Joel	Auckland	Aeroplane	Exp
MCY	ATR-GIE ATR 72-212A	Air New Zealand Ltd	Auckland	Aeroplane	Exp
OJF	Airbus A320-232	Air New Zealand Ltd	Auckland	Aeroplane	Exp
OMK	Cessna 172	Omaka Cessna Syndicate	Blenheim	Aeroplane	W/d
PTD	Pacific Aerospace CT/4E Airtrainer	BMH Limited	Napier	Aeroplane	Exp
SFF	Diamond DA20-C1	L3 CTS Airline Academy (NZ) Ltd	Hamilton	Aeroplane	Exp
SFG	Diamond DA20-C1	L3 CTS Airline Academy (NZ) Ltd	Hamilton	Aeroplane	Exp
WLN	NZ Aerospace FU24-950	Phoenix Aviation Limited	Gore	Aeroplane	W/d

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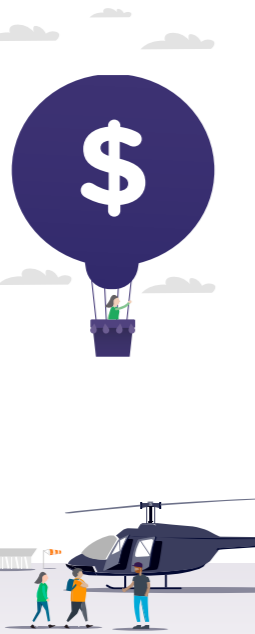
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