

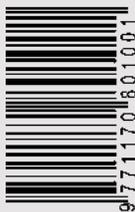


KiwiFlyer™

Magazine of the New Zealand Aviation Community

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Flying the Fokker E.III Eindecker

A History of Piston Engines Gavin Conroy's 2023 Gallery

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From the Editor

In our last issue Jill McCaw reported on Mike Strathern's efforts at the World Gliding Championship which was in progress as we went to print. This time, Jill and Mike report on his results which saw a very respectable placing about middle of the competitors in his class. Over 11 days Mike spent 45 hours in the air and flew around 3600km, sometimes under clear blue skies in scorching Australian heat. Indeed a couple of days had to be cancelled with temperatures reaching 42 degrees. Mike also did exceptionally well in the events which preceded the championship and congratulations are very much due to Mike and his crew for their achievement.

Our first KiwiFlyer issue for 2024 features one of The Vintage Aviator Limited's collection of WWI fighters. The aircraft pictured flew earlier in 2023 and another of the type has just been registered and is nearly ready to fly. There is in fact also a third example located at Omaka. Aside from all the usual special characteristics of any WWI aeroplane, the obvious feature of the Fokker E.III Eindecker is, as its name refers, the monoplane single wing. Another feature of historic importance was the gun which for the first time could be fired through the propeller arc thanks to a geared interrupter mechanism which prevented bullets from shooting the propeller off in the process. Gavin Conroy reports on the history of the type and the reproductions now completed by TVAL.

Gavin features again in this issue with his annual gallery of photography from 2023. On the one hand, yes, Gavin clearly gets all the good jobs. But on the other hand, there's a reason for that which is that he is so good at it. There's a particular skill in combining flight planning, formation flying, lighting, background and composition all at the same time as managing to capture a perfectly sharp and tightly cropped, high-resolution image at the slowest shutter speed possible – and it's a skill that Gavin has honed particularly well over the years. It would be easy to fill a magazine with these images but readers will have to make do with half a dozen pages of our favourites instead.

Also in this issue are contributions from Clive Wilkinson covering the annual First in the World Fly-in on New Year's Day held this year at his local strip of Hood Aerodrome, a report on the Royal Aeronautical Society's Symposium held towards the end of last year, and an article from Jill McCaw about her visit to the Brodie family's Rangitata Island airfield.

Enjoy reading. Fly safe.

Michael Norton
Editor | Publisher



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Andrew Vincent in the The Vintage Aviator Limited's Fokker E.III Eindecker following its test flying programme. Many people are surprised to learn that monoplane fighters existed back in 1915. Gavin Conroy photograph.

About Us

KiwiFlyer is for and about the New Zealand Aviation Community.

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Thank you to our regular Contributors: Bill Beard, Penny Belworthy, Grant Bennis, Garth Cameron, Gavin Conroy, Ciaran Doolin, Paul Harrison, Bill Henwood, Ivan Krippner, Jill McCaw, Frank Parker, and others.

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KiwiFlyer is proud to support: YouthGlide, Walsh Memorial Scout Flying School, Flying NZ Young Eagles and the Air Training Corps.

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F-16 Fighting Falcons at Wanaka

Warbirds Over Wanaka International Airshow has confirmed the United States Air Force is supporting the event this Easter with both the F-16 fighter jet and C-17 demonstration teams heading our way.

The F-16 Fighting Falcon team is based at Misawa in Japan and the jets will be escorted to New Zealand by a KC-10 Extender tanker aircraft for air-to-air refuelling. The C-17 Globemaster III team is coming from their base in Hawaii.

Warbirds Over Wanaka General Manager Ed Taylor says they are thrilled to have these aircraft confirmed; “The United States Air Force has been a major supporter of our air show over the years. Their teams always put on top displays and their personnel on the ground are always great ambassadors for their country.

“The F-16 is such an iconic warbird and not just because it can fly at 2000 kph. The aircraft first flew in 1974 and is still being manufactured today - 50 years later. What a way to celebrate your 50th with a ‘fast and furious’ display at Wanaka. The F-16 is relatively small and light giving it amazing manoeuvrability – perfect for showing off in front of a big crowd,” says Ed.

In contrast the huge C-17 Globemaster III is neither small nor fast but will be an equally impressive sight that fills the sky above Wanaka during the airshow.

The American participation backs up an impressive line-up of modern aircraft already confirmed by the Royal New Zealand Air Force. Highlights include the NZ airshow debut for the new Poseidon P-8K maritime surveillance aircraft which has replaced the P-3K Orion and what’s expected to be an emotional farewell to the C-130H Hercules which is performing its last major airshow display before being retired.

The RNZAF is also bringing its Air Force Heritage Flight including the Spitfire, P-51 Mustang and Grumman Avenger. They will be flying with the Texan T-6C Black Falcons. All three RNZAF helicopter types will display along with the Kiwi Blue parachute team.

Ed says having the support of the RNZAF and other partner air forces is an integral part of the event. “Our air show is proud to have aircraft from the 1920s right through to today – it shows how technology has evolved over the years. It’s also a great chance for visitors to find out about careers in the armed forces.”

For more information and tickets go to www.warbirdsoverwanaka.co.nz

Warbirds on Parade at Ardmore

Headlined with a display from the Goodyear FG-1D Corsair now owned by Mike Jones which recently flew for the first time in six years, the NZ Warbirds Association’s next Ardmore event is scheduled for March 10th. These regular air show events throughout the year are a credit to the association and provide an outstanding showcase of the collection of aircraft at Ardmore, especially from the WWI and WWII eras. Manager Kim Parker has advised that in order to help ease traffic congestion and to make the event a more pleasant experience for everyone, there will be limited tickets for sale online only – so get yours soon. See www.nzwarbirds.org.nz for more information.

TracPlus and the transition from 3G

TracPlus notes that many users of tracking devices may be affected by the transition away from 3G networks over the next two years. As global telecommunications shift towards 4G and 5G networks, the phasing out of 3G services is occurring at different paces globally. For example, in the United States, major network providers have already begun decommissioning their 3G networks, with the process expected to be largely completed by the end of 2023. In contrast, countries like Australia and New Zealand have set a timeline extending through 2024 and 2025, respectively.

TracPlus’ Todd O’Hara says that the gradual shutdown of 3G networks will affect all 3G GSM and satellite network-based aircraft tracking devices; “Users of these systems will experience a shift towards greater reliance on satellite communications. This transition, while affecting connectivity, does not mean the end of utility for these devices. It’s important to note that as 3G towers are decommissioned, devices with multi-carrier capabilities, such as TracPlus’s RockAIR, may offer more resilience. However, post-shutdown, all 3G tracking devices will need to operate in a satellite-only mode, which may result in higher operational costs due to increased satellite data usage. Anticipating this, TracPlus introduced the LTE-compatible RockAIR model in late 2022. We do recommend that users of other 3G tracking systems, explore options for 4G-compatible upgrades with their respective providers to ensure high quality connectivity is maintained as these network changes occur.”

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Stoneybrook Training, in collaboration with Ardmore Flying School, acquires Contract Aircrew Training web-based Aviation Industry Courses.

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About Stoneybrook Training:
Excellence in Online Training
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Stoneybrook Training takes pride in delivering superior Pilot Theory Courses that are comprehensively researched and constantly evolving to meet the latest requirements. Their aeroplane and helicopter courses provide all necessary NZCAA subject material without the unnecessary bells and whistles. The new Industry Courses will integrate with the current offerings under the Ardmore Flying School Part 141 Training certificate.

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About Ardmore Flying School:
Excellence in Pilot Training
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Ardmore Flying School has been a leader in pilot training for over 60 years, renowned for its commitment to excellence. The school is globally recognised for maintaining high standards in its flight training programs, providing students with a solid foundation in aviation theory and essential pilot skills. With international acclaim having trained over 22,000 students, Ardmore Flying School attracts students worldwide, preparing graduates to be skilled and confident pilots for both airlines and commercial aviation.

CONTRACT

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About Contract Aircrew Training:
Excellence in Aircrew Training
Since 2021

Contract Aircrew Training (Conair) is recognised for courses approved by regulatory bodies like NZCAA, CASA, CAAF etc. Conair’s courses cover diverse areas such as Aviation Security Awareness, Crew Resource Management (CRM), Dangerous Goods Awareness, Extended Diversion Time Operations (EDTO), Human Factors for various roles, Noise Abatement Awareness, and specialised briefs for specific airports.

Aviation sector unites to enhance safety at unattended aerodromes

The Civil Aviation Authority has joined forces with aviation leaders to raise awareness of the need to increase safety at unattended aerodromes, as part of their Work Together, Stay Apart safety campaign which aims to reduce airborne conflicts within the circuit at unattended aerodromes.

The first of its kind at this scale, the campaign comprises a coordinated set of activities targeted at increasing the shared understanding of standardised procedures among pilots, improving aerodrome management and safety, and collaborating with operators to promote best practice. Airborne conflict at unattended aerodromes is a serious issue that doesn't affect just one individual or operator alone; it affects multiple pilots and operators flying in shared airspace, including any passengers in the aircraft at the time of conflict.

The first six months of the campaign have seen the new Good Aviation Practice (GAP) video 'Plane Talking' toured around the country in a series of seminars, attended by nearly 1500 people; educational online animations to remind pilots of key

procedures and rules; posters distributed around the country; and the summer issue of Vector magazine dedicated to the campaign.

To continue the campaign's momentum, a Statement of Commitment to Work Together, Stay Apart has been launched by CAA to demonstrate the collective dedication within the aviation sector to working together and staying apart, to reduce the likelihood of mid-air accidents and the number of near collision and air proximity events within the circuit at unattended aerodromes. All participants, whether organisations, groups, or individuals, that operate at and from uncontrolled aerodromes, and those who influence those operations, are invited to sign. Many already have.

Deputy Chief Executive Aviation Safety David Harrison acknowledged the positive response from the aviation sector since the start of the safety campaign in June 2023. "We've been really encouraged by the level of participation in the campaign so far and this is an opportunity for everyone to show their dedication to safety publicly,"

said David.

Director of Civil Aviation Keith Manch called on individuals and organisations to lead by example in signing the Statement of Commitment. "Safety in aviation is everyone's responsibility and we're all accountable for playing our part in achieving this – no one is exempt from risk, no matter how experienced, or whether their operations are recreational or professional," said Keith.

Coming up in 2024 for the Work Together, Stay Apart campaign is a new GAP booklet on how to be an aerodrome manager, an Aerodrome Users seminar series, a Vector article addressing IFR & VFR integration at unattended aerodromes, a GAP video about maintaining lookout and a GAP video about complex circuits accompanied by nationwide seminars.

Aviation participants – individuals and organisations alike – can sign the Work Together, Stay Apart Statement of Commitment and keep an eye out for updates about the safety campaign at aviation.govt.nz/wtsa

FAI Diplomas and AIR Sports Medals recently awarded by Flying NZ

In 2023 several prominent New Zealand Aviators were presented with awards via Flying NZ and their association with the Federation Aeronautique Internationale (FAI), in recognition of their work in the aviation sector. These awards are in two categories: the Paul Tissandier Diploma (see KiwiFlyer Issue 94) and the FAI Air Sport Medal, which may be awarded to individuals or groups for outstanding services in connection with air sports activities, for example work organising championships, for training and education of new pilots, parachutists or aero modellers, and for promoting aviation in general, especially in relation to young people.

Most recently in January, another Paul Tissandier Diploma was awarded, this time to Ross Gaddes of the Auckland Gliding Club. Previously at the Gliding NZ AGM, Tim Bromhead, had also received a Diploma for services to the NZ gliding community.

During 2023 three individuals (David Campbell, Gorge Thompson and Evan Gardiner) as well as the NZ Hang-gliding & Paragliding Association, were all awarded FAI Air Sport Medals.

Liz King from Flying NZ has profiled these people and their achievements below.

Ross Gaddes – Paul Tissandier Diploma

Ross was presented with his award by FAI NZ Representative Liz King & FAI President of Honour Bob Henderson, at the Auckland Gliding Club's home base of Drury on 13 January. Ross' citation includes:

An accomplished competition pilot and instructor, Ross has been gliding for about thirty years. At national level, Ross has been a very active member of the



Bob Henderson and Ross Gaddes



Tim Bromhead

Gliding NZ Sailplane Racing Committee for ten of the last sixteen years, including Chairman for two years.

At a local level, Ross was the instigator and primary organiser of a new 'enterprise' style of gliding competition at his club. This was instantly popular for its soaring enjoyment and social interaction and has become the biggest event on the calendar with entries from all over New Zealand.

Ross is also well known for his technical skills, having owned and operated the main gliding maintenance and repair business in New Zealand for nearly 20 years. He has a reputation for always wanting to help solve technical problems, just one of the many ways in which Ross continues to enthusiastically serve the sport.

Tim Bromhead - Paul Tissandier Diploma

A glider pilot for about the last 15 years, Tim has earned an FAI Gold Badge with 3 Diamonds and is an accomplished competition pilot, having won many championships. Tim is also known for

his communications and technical skills: early in his gliding career he developed his club's website and regular newsletter, The Flypaper.

At national level, Tim has been the Gliding NZ webmaster for the past seven years. During this time, he has built a membership database capable of tracking pilot ratings, achievements, currency and medicals. He is an advocate of flight tracking and the website now enables flight-following in real time, tracking a wide variety of in-glider GPS devices. Tim is an active member of the Gliding NZ Airspace Committee, which is tasked with advocating for gliding in the face of the ever-increasing demands for more controlled airspace. He has also created a wide range of educational gliding videos which are freely available online.

David Campbell – Air Sport Medal

David has been an active member of the Tauranga Aero Club for 36 years where he has held the position of Club Captain and Vice President, before serving

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as Club President from 2008-2012. He was instrumental in leading construction of their new club rooms and was also involved in restructuring the flying operation at the club into a profitable and sustainable operation.

David has always been a keen competition pilot, believing it provides the best platform for improving standards and precision when flying. During his years competing he has won national titles in spot and forced landings, navigation, aerobatics, formation and streamer cutting. David has been fortunate to represent New Zealand 14 times in the NZ wings team and has enjoyed competing in Australia. On five occasions he has won the best overall pilot at the Australian Light Aircraft Championship.

His biggest enjoyment is helping the next generation of club competition pilots, particularly in mentoring new pilots into formation and streamer cutting. David has been a Young Eagles commander, taking local Young Eagles flying for over 20 years. He is a life member of the Tauranga Aero Club and recently received a Flying NZ platinum award.

George Thompson — Air Sport Medal

George started his flying career with a PPL in 1961 before he had turned 16. 62 years later he is still flying the Cessna 180 he imported from Uruguay which required a complete rebuild that he did himself over about 15 years.

He joined the Waitomo Aero Club in the early '70s. He quickly became interested in all club affairs especially the competitions - and has won the national bombing competition three times and the life-raft drop twice.

As well as ensuring the club has an entrant in all of the competitions for which they can qualify, George has always promoted and encouraged student members and has frequently organised open days and fly-ins at the airfield. He has served on the committee as club captain and more recently has completed 17 years as club secretary.

George is also a keen member of both the 180/185 club and AOPA where he has also served on the committee. Being no stranger to back-country strips himself he has organised fly arounds to strips for both AOPA and club pilots.

Glen Sycamore — Air Sport Medal

Glen has been an active supporter and volunteer instructor of The Walsh Memorial Flying School since 2012. He has also spent five years as CFI at Whenuapai Aviation Sports Club where he has made improvements to flight training, updated the club's operations manual, established safety systems, and more including instructor booking and flight records system improvements.

Glen's is also involved in the maintenance of the club's fleet and has driven the search for fleet enhancements.

With an instructional style focused on patience and confidence building he has successfully trained club members up to CPL, C-cat and B-cat instructor ratings and encourages all club pilots to keep building on their qualifications and skills.

Evan Gardiner — Air Sport Medal

Evan Gardiner has been involved in the New Zealand Part 103 Microlight community from the beginning of the sport in the late 1980s. In that time, the sport has changed considerably from very basic aircraft to the high-performance microlights that we have today.

He served for many years as a Recreational Aircraft Association of New Zealand (RAANZ) committee member, Operations Officer, President, and most recently CEO, holding a delegation from the New Zealand CAA Director. As CEO, he oversaw the amalgamation of two of New Zealand's Part 149 groups, creating the largest microlight organisation in NZ, with over 90% of microlight pilots represented. Evan continues to provide counsel to the RAANZ Executive Committee based on the wealth of knowledge and experience he has accumulated in over 50 years of active involvement. Evan has recently stepped down from flying activities and direct involvement in RAANZ.



Back Row: Bob Henderson, Louise Tapper, Aaron Darby, Nick Taber, Matt Harrison, Emlyn Revell-Nash. Front Row: Glen Sycamore, George Thompson, Evan Gardiner, David Campbell.

NZ Hang-gliding and Paragliding Assn. Air Sport Medal

NZHGPA is a voluntary organisation who manage the training, licensing, and equipment standards of around 1,718 active pilots across five disciplines, including hang-gliding, foot-launched non-powered and powered, paragliding, and paramotoring. The association also issues 33 different pilot ratings and authorises flying sites, as well as producing (for 50 years) 'Airborn Magazine'.

Over the years, the NZHGPA has trained nearly 17,000 pilots and hosted over 10,000 worldwide visiting pilots. Many more thousands have experienced tandem gliding. The Association's 11 regional clubs host local competitions leading up to the NZHGPA annual Hang-glider and Paraglider National Cat 2 Competitions. New sports disciplines

like acrobatics and Hike and Fly have been introduced in the Southern Alps.

Around 90 volunteers across NZ keep the sport alive with many having been involved as volunteers for decades.

NZ Hang-gliding and Paragliding Assn. Safety Group — Air Sport Medal

In January 2021, Hamish Dicker created an Accident and Incident Reporting System (AIRS) for hang-gliding and paragliding in New Zealand. The system provided extensive data to create the first comprehensive NZHGPA Annual Pilot Safety Reports. In April of the same year, the NZHGPA was granted approval by CAA to administer their own Accident and Incident Reporting System and created a Safety Hub that provides real-time occurrence and safety reports.

The initial Annual Safety Report

identified the necessity for further investigation, resulting in the formation of the Safety Task Force (STF), comprising six pilots with specialised expertise in their respective disciplines.

The STF was tasked with producing a comprehensive report that would search worldwide for best practices and provide a risk-focused approach to improving the safety and wellbeing of pilots. The group met weekly for over a year and produced the ground-breaking Safety Task Force Report. This will be used to shape the safety component of the NZHGPA strategic plan. The report is also starting to gain traction worldwide with other hang-gliding and paragliding organisations.

Members of the Safety Group are: Louis Tapper, Matt Harrison, Hamish Dicker, Dominic Eller, Rick Hawkeswood and Malachi Templeton.

Liz King

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Stoneybrook Training acquires Contract Aircrew Training's web-based Aviation Industry Courses and forms training partnership with Ardmore Flying School

Following Stoneybrook Training's recent acquisition of the industry training courses previously offered by Contract Aircrew Training, Stoneybrook and Ardmore Flying School have formed a partnership which will see an expanded portfolio of aviation industry courses being delivered by Ardmore Flying School under their Part 141 Training Organisation certification.

With Contract Aircrew Training's courses covering Aviation Security Awareness, Crew Resource Management, Dangerous Goods Awareness, Extended Diversion Time Operations, Human Factors and more, this arrangement caters well to the ongoing provision of learning opportunities for the aviation industry - from individual staff, training schools, to charter operators, scheduled airlines and freight operators.

As well, the new partnership leverages the strong legacy of Contract Aircrew Training and strengthens the positions of Stoneybrook Training and Ardmore Flying School as leaders in aviation education.

About Stoneybrook Training

Stoneybrook Training was founded by Ian Matheson in 2002. Ian says, "The company takes pride in delivering superior Pilot Theory Courses that are comprehensively researched and constantly evolving to meet the latest requirements. In partnership with ADS Courseware, our courses provide all necessary NZCAA subject material without the unnecessary bells and whistles. We're delighted to be working with Ardmore Flying School to integrate new Aviation Industry Courses with those currently offered under their Part 141 Training Certificate."

About Ardmore Flying School

Ardmore Flying School has been a leader of pilot training in New Zealand for more than 60 years in which time the company has trained more than 22,000 students. The school is globally recognised for maintaining high standards in its flight training programmes, providing students with everything they need for a solid foundation in aviation theory and essential pilot skills. Based at Ardmore since its inception the school currently operates a large fleet of Cessna C172s and Diamond Twin Star DA42s, alongside an A320 fixed base and other simulators.

About Contract Aircrew Training:

Contract Aircrew Training (widely known as Conair) is recognised for courses approved by regulatory bodies such as the NZCAA, CASA, CAAF and more. Conair's courses cover diverse areas such as Aviation Security Awareness, Crew Resource Management, Dangerous Goods Awareness, Extended Diversion Time Operations, Human Factors for various roles, Noise Abatement Awareness, as well as specialised briefs for specific airports.

Conair's courses are designed to enhance the knowledge and skills of aviation professionals, ensuring compliance with regulatory requirements and fostering a high standard of safety within the industry. The courses are accessible online, allowing participants to conveniently engage in learning and stay updated with industry standards.

The Team at Stoneybrook Training

Alastair Bax is a retired Boeing 737 Check and training captain and a Director of Aviation Data Services Limited. Now with more than 40 years experience and 23,000 flying hours logged, Al started his career as a flying instructor (Cat B and D) and charter pilot, then flew multi-engine IFR for a third level airline before joining Ansett in 1988. He has been frequently involved in classroom teaching over the years and built many of the web-based industry courses for Contract Aircrew Training. Al spent his last few years in the airline industry as a Simulator Check Captain.

Ian Matheson founded Stoneybrook Training in 2002, responding to the need for ATPL law lectures for Air New Zealand's contract pilots from the United Kingdom. With over 30 years in the aviation industry, Ian's resume includes a wealth of experience as an instructor, air ambulance pilot, corporate pilot, and commercial pilot. He has logged more than 14,000 hours across many types including corporate jets and commercial airliners. In a twist of fate Ian has now come full circle - he in fact commenced his career as the Ground School Supervisor at Ardmore Flying School.

Ian says that "This acquisition underscores our dedication to offering top-notch aviation education. By combining the strengths of Stoneybrook

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The Fokker E.III Eindecker

Andrew Vincent about to land the Eindecker which looks very graceful here, photographed from The Vintage Aviator Limited's DH Tiger Moth flown by Pete McCombe.

We know readers appreciate the images Gavin Conroy contributes to pretty much every edition of KiwiFlyer so as part of his annual 2023 Annual Photo Gallery presented in this issue, we asked for a favourite with an article alongside. Gavin chose the Fokker E.III Eindecker, piloted by Andrew Vincent. This was one of the aircraft featured in Gavin's 2023 book 'Vintage Aviators – Aircraft of the Great War' available from publishers Potton and Burton (and all good bookstores). The following includes extracts from the book as well as previously unseen images of the aircraft.

It wasn't long after aircraft came into use during WWI that airmen from opposing sides commenced firing pistols and rifles at each other to deter overflying of their lines. Lucky shots aside, these 'battles' were ineffective. Thus all the major combatants engaged in these fledgling air campaigns looked for ways to improve their shooting accuracy. Guns were fitted to the airframes but had to be located outside of the propeller arc and whilst rate of fire and effectiveness took a huge leap forward, accuracy still left much to be desired.

What was needed was for the aiming of the gun to be aligned with the 'aiming' or nose of the aircraft, but this would require the

guns to be more centrally mounted. Of course the major problem to overcome before this could be accomplished was to avoid shooting the propeller off in the process!

An early attempt was made by Frenchman Roland Garros who developed a deflector system such that bullets which would have intersected the propeller instead glanced off metal plates. The flaw with this approach was that a bullet could just as well ricochet back into the aircraft, or indeed the pilot. However on 1 April 1915 Garros achieved the first ever shooting-down of an aircraft by a fighter firing through a tractor aircraft's propeller. Unfortunately Garros and his aircraft fell into German hands later



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Half cowls were common in WWI to provide for better engine cooling.



Mounting the large compass in the wing helped free up space in the cockpit.



A sparse cockpit, but with enough info and systems for pilots to get the job done.

that month, the gun and armoured propeller remaining intact. The system was soon studied by Dutch designer Anthony Fokker who was also working on the problem.

An Interrupter Gear

Basing his mechanism on that patented by Hans Schneider in 1913, Fokker refined and went on to produce a far better system by including an interrupter gear driven off the engine which synchronised the gun such that it stopped firing as the propeller blades crossed the line of fire. The rest of the time bullets could pass between the rotating blades unhindered. The course of aerial combat was thus changed forever.

Fokker and the Eindecker

Fokker was a major supplier of fighters to the German Air Service. Early Type A Eindeckers (one deck/wing) were unarmed reconnaissance aircraft which provided the basis for further development. The type was largely a copy of the Morane-Saulnier H and L monoplanes but with structural improvements and featuring the characteristic Fokker tail plane. The 80 hp Oberursel U 0 rotary powered E.I was the first to be armed, initially with a single Parabellum LMG 14 machine gun; however jamming problems forced a change to the Spandau-produced Maxim LMG 08. The 100 hp Oberursel U 1 powered E.II was developed concurrently with the E.I and entered service in July 1915, but few were built before the most prolific model, the E.III, superseded it on the production line in September. The E.III was externally identical to late production E.IIs but carried a larger fuel capacity.

The first Eindecker kill was accomplished by Lt. Kurt Wintgens flying a pre-production E.I. On 1 July 1915 Wintgens engaged a French Morane-Saulnier Type L observation aeroplane over northeastern France, damaging the Morane's engine and forcing it down. Wintgens is believed to have achieved the first aerial victory using a synchronised machine gun, but because his victim went down inside Allied lines the victory was not officially credited (though later confirmed by the French). Three days later Wintgens downed another Morane, but it wasn't until 15 July 1915 that he became the first Eindecker pilot to be credited with an official victory. Ironically the French reported no losses on that date.

The Fokker Scourge

The first production E.IIIs began arriving at the Front from August, firstly with Oswald Boelcke's Feldfliegerabteilung 62. German pilots were ordered not to fly the aircraft across enemy lines for fear the Allies would have the opportunity to capture the secrets of the synchronising gear. However in April 1916 an



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A myriad of wires provide structure to allow wing warping instead of ailerons.



A familiar looking rudder - not a lot different to the Fokker Dr.I Triplane.

Flying the Fokker Eindecker

Andrew Vincent was the E.III Eindecker pilot for the images in this article and recorded his experiences of flying the aircraft in Gavin's book mentioned earlier. Andrew writes:

"Flying the Fokker E.III Eindecker has given me two very clear impressions of the aircraft. Firstly, it has left me with utmost respect for the aviators who would manoeuvre these aircraft around the sky in the way they did. And second, how one single development like the forward firing gun, could have such an impact on aerial warfare strategy.

"As with many of the reproduction aircraft in the TVAL collection, the Eindecker's configuration offers a unique opportunity to experience how the original aircraft of the time actually performed.

Viewed from outside, the aircraft seems smaller than many other aircraft on the flight line. Its monoplane configuration, combined with a long slender fuselage makes the aircraft stand out from other biplanes of the time.

"Once seated in the cockpit, the pilot finds themselves with very good visibility around the aircraft, including over the nose, which is slightly unusual for aircraft of this era.

"Engine start begins with priming the crankcase with fuel, after which ground personnel turn the propeller slowly, to prime the cylinders. The single magneto is then turned on and the engine usually fires on the first or second attempt at swinging the propeller.

"Because this particular engine is effectively an 'On or Off' engine, the pilot adjusts the mixture for full power and then 'blips' (switches the ignition magneto off and on) to achieve the desired power. From take-off until landing, the engine mixture control is usually set and left at full power.

"For an early war aircraft, the Eindecker is surprisingly quick, with impressive acceleration on take-off and a respectable turn of speed in the cruise. However, the limited knowledge of aerodynamics by aircraft designers of the period is readily apparent.

"Roll control is via 'wing warping', where the whole wing is twisted by the pilot, using the control column, to roll the aircraft. Although adequate, it takes a little getting used to - and ensuring coordination with the rudder to balance the turn is of utmost importance.

"Conversely, the pitch control of the Eindecker is very sensitive, and requires constant attention from the pilot - as without such, the aircraft will readily pitch up or down at any slight external influence such as gusts of wind or thermals. Although this requires actively keeping on top of, it equally makes the aircraft very manoeuvrable in pitch.

"Once in level flight, the Eindecker flies at a quite impressive speed of approximately 90 to 95 mph. At the time, early in the war, this would have outpaced almost every other aircraft in the air.

"Landings in the Eindecker are relatively straightforward with the good forward visibility and landing rolls are short when the aircraft is landed in a three-point attitude. As with so many aircraft of its time, landing directly into wind proves to be very important.

"Considering the limited manoeuvrability of the aircraft, it is impressive to think that many German fighter aces first learned their craft on the Eindecker, resulting in numerous successful battle strategies and manoeuvres."

Andrew Vincent 

example landed on the wrong side of the lines, presenting the British with an undamaged machine to study.

Operating individually or in small groups, skilled pilots such as Immelmann and Boelcke used the fighter to good effect against the poorly armed British and French aircraft, such as the B.E.2 and the Voisin. Allied air losses rose sharply between late 1915 and mid-1916, a period known as the 'Fokker Scourge'. Morale wasn't high and Allied aircrew reportedly referred to themselves as "Fokker Fodder".

Oswald Boelcke scored the most Eindecker victories achieving 19 out of his final tally of 40. Max Immelmann had the second highest Eindecker score, achieving his first in an E.I on 1 August 1915 and going on to score all of his 15 victories in the type. Immelmann died on 18 June 1916 when his E.III was shot down in a fight with F.E.2bs. German reports attributing his loss to the aircraft's propeller being destroyed because of a faulty synchronising system.

In an attempt to retain an edge Fokker developed the 160 hp Oberursel U.III powered Fokker E. IV, fitted with two LMG 08 machine guns. First appearing in September 1915, the fighter did not arrive at the Front in numbers until March-April 1916 and was largely a disappointment, being less manoeuvrable than its predecessor. In addition, its engine proved troublesome.

By the spring of 1916 new Allied fighter aircraft such as the D.H.2, F.E.2b, Nieuport and SPAD S.VIIs appeared, and together they put an end to the Eindecker dominance. Even the two-seat Caudron G4 and Maurice Farman had some success against their attackers. The Fokkers continued use of now outdated wing warping for roll control (rather than more advanced ailerons) decreased its ability to avoid more agile enemy aircraft like the



The pistol and stock provided extra firepower should the gun jam or run out of ammo.



Futuristic at the time, monoplanes became commonplace after WWI.



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Nieuport 11. The Eindecker was no longer effective but it carries the undeniable success of being the first true fighter aircraft.

Of the 420 Eindeckers built, of which almost 300 were E.III's, just one original example survives. This is on display at the Science Museum in London.

Three Eindeckers now in New Zealand

The Vintage Aviator Limited's aircraft featured in these images is a reproduction that has its origins in Germany, having been one of three airframes (sans covering, engines and instruments) built by Achim Engel's Fokker-Team-Schorndorf – two of which have been acquired by TVAL.

After the aircraft arrived TVAL made various improvements including fitting their own scratch-built 'Gnome' rotary engine as well as other in-house products, plus a few airframe changes to bring the aircraft closer to the original, flying it for the first time in March of 2023. The colour scheme of the Eindecker represents that used by Ernst Udet, the second highest scoring German fighter pilot of WWI.

TVAL's second E.III ZK-EID (powered by an original 9-cylinder Gnome Monosoupape rotary engine) appears on our KiwiFlyer ZK Review pages in this issue and is ready to fly pending inspection and paperwork requirements.

There is in fact another example which resides at Omaka. This is on loan to the Aviation Heritage Centre and belongs to Engel himself, having come here from long-term loan to the Australian Vintage Aircraft Society in Queensland which has recently closed down. This example is powered by one of Classic Aero Machining Services' reproduction 9-cylinder Gnome Monosoupape rotary engines (see KiwiFlyer Issue 95). CAMS are also based at Omaka.

Gavin Conroy

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AirVenture Oshkosh
Gaye Pardy Travel Tour departs 19th July



Justifiably billed as The World's Greatest Aviation Celebration, EAA Airventure Oshkosh really does have it all. 10,000 aircraft fly in to the event (for an average 148 movements an hour) and last year around 3300 show aircraft participated including homebuilts, antiques, classics, warbirds, microlights, rotorcraft and amphibians. Every afternoon is air show time between 2pm and 5pm. There are also two spectacular night air shows including impressive fireworks and explosions.

Many unique aircraft are displayed in the air shows, from early racers to historical airplanes and newly developed craft. Also featured are many of the world's outstanding aerobatic performers. This year is the 100th anniversary of the Royal Canadian Air Force so there's likely to be something special from them too.

Exhibit buildings contain just about everything there is to see or purchase in aviation, with over 800 participating exhibitors. Last year more than 1400 forums, workshops or presentations were conducted by aviation leaders, designers and craftsmen. 677,000 people attended the event in 2023.

There's plenty of aviation focused entertainment and seminars happening in the evenings too.

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

New Zealand's most experienced EAA Airventure Oshkosh Tour Organiser, Gaye Pardy, is this year arranging her 37th AirVenture tour. Given the extraordinary scale of the event, there are obvious benefits in making the trip as part of an organised group. And this is a properly escorted trip – you're not just buying tickets in New Zealand and then being sent on your way. Aside from having all logistics and advice taken care of, there are also several pre and post-Oshkosh events/visits to enjoy, not to mention the fun of being surrounded by like-minded Kiwi aviation enthusiasts while you're away.

The 2024 Gaye Pardy Travel tour will depart on 19th July by Air NZ 787 Dreamliner

direct for Chicago. Gaye says that "In the morning we'll set off by coach, stopping on the way at Clintonville to visit a factory and museum which showcases the history of four wheel drive including a workshop of Zachow and Besserlich, the inventors of the first successful four wheel drive cars and trucks. We'll also stop at Green Bay for a look at the National Railroad Museum to see some amazing trains from different eras. Arriving at Oshkosh, we have accommodation choices at the University in air conditioned rooms or apartments which can take up to four people.

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

"After a week at Oshkosh an extension tour will head to Washington to visit the Udvar Hazy Museum, then to Tuscon Arizona to visit the Pima Air Museum which holds over 300 aircraft, AMARG (aviation boneyard in the desert), the Asarco Mineral Copper Mine, and the Titan II Missile Site, and more. We then head to Houston where we will visit the NASA Space Centre and fly home from there.

"Or if you'd like to stay on holiday we can book many onward options of your choosing - Alaska, Rocky Mountains, cruises, stopovers in Hawaii, travel to Europe, just to name a few. **We really look forward to putting a fantastic trip together for you!**

"All details are available on our Oshkosh page at www.gayepardy.co.nz or call Gaye on 07 574 1950, 027 493 9073, or email: travel@gayepardy.co.nz for more information and a full itinerary."

KiwiFlyer has included various articles on Oshkosh over the years, the most recent by Frank Parker in Issue 84 which can be freely downloaded from our website. It comes with a warning however – if you read it you'll definitely want to go.



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



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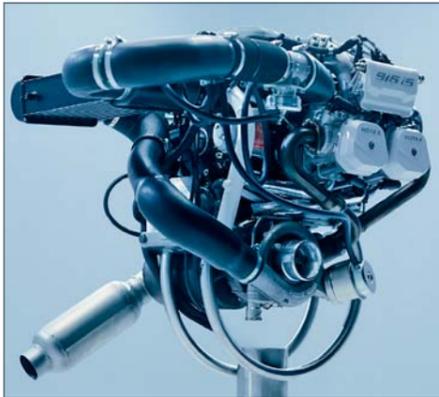
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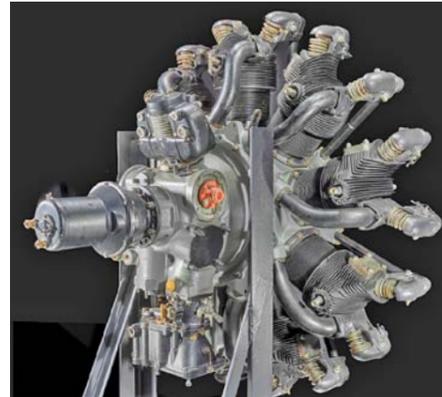
A History of Piston Engines in Aviation



The latest Rotax 916 - 86 kg and 160 hp



Continental's venerable O-200 developed in the '50s



Lycoming's R-680 from 1929

The Fokker Eindecker on the cover of this issue is powered by a Gnome Rotary engine. Whilst it incorporates pistons and a crankshaft, many readers won't realise how it works without a second look at the pictures. If you don't know already, compare the cover image of the engine to the static one on page 14. Where did all the cylinders go on the cover? The answer is that the crankshaft is bolted to the airframe and the propeller is bolted to the cylinders – which turn around the crankshaft taking the propeller with them. With this fascinating piece of engine history on the cover, it seemed a good time to include an article on the history of piston engine development in aviation.

Whether it was Richard Pearse or the Wright brothers, the first aircraft was powered by a multi-cylinder piston engine turning a crankshaft to which the propeller was attached. In the case of the Wright's aircraft there was no throttle and output was (somewhat) controlled by retarding or advancing spark timing. The plane was the innovation of course, because piston engines were not new. A steam engine is a piston engine, to which Otto and Daimler had introduced gasoline as fuel and patented their invention in 1876.

The first engines used in aircraft unsurprisingly resembled car engines of the time and thus whilst functional weren't especially light nor powerful, both prerequisites for aviation.

One way to address this problem was to cool the cylinders with air instead of water (and associated plumbing) and in 1908 the French 'Gnome' engine was introduced. It stayed cool by spinning the cylinders around with the propeller in the open air.

Rotary engines found their place in WWI powering fighters on both sides of the lines, some producing more than 250 hp. As more and more power was demanded by pilots however, the rotary design lost favour and manufacturers returned to water cooling with the additional advantage that these engines could be completely enclosed within a streamlined fuselage, useful for achieving higher airspeeds.

That advantage aside, water cooling still necessitated a lot of extra weight and many additional components which all had the potential to fail. And thus the air cooled radial design was conceived. Many cylinders could be spaced radially around a rotating crankshaft in a manner that offered equivalent power, reduced weight and less complexity. The US Navy tipped in support for companies such as Pratt & Whitney and Wright Aeronautical who developed the Wasp and Whirlwind designs respectively.

The next thing pilots wanted to do was to fly higher, no doubt for speed but also to assist with the element of surprise and to avoid ground fire. The thinner the air got however, the less performance they received from their engine. By 1930, superchargers had become commonplace whereby air could be compressed before ingestion by the engine, thus packing more molecules into each intake cycle.

Still more power was desired and designers started to turn their attention to fuel. If the fuel was too volatile and the compression of the engine too high or the spark timing too aggressive, the fuel would detonate inside the cylinder in an uncontrolled rather than controlled manner. This creates a 'knocking' sound, which is what the problem was called. After various experiments a US chemist discovered that the problem could be avoided by the addition of tetraethyl lead to the fuel – and in the late 1920s leaded gasoline became widely adopted for aircraft and automobile use.

The performance stars were aligning now, and by WWII engines such as the Rolls-Royce Merlin was producing 2200 hp, perhaps six times the best output achieved in WWI. By now aircraft were operating at 20,000 feet and fighters were flying at 400 mph.

The next technological leap forward was of course the jet engine.



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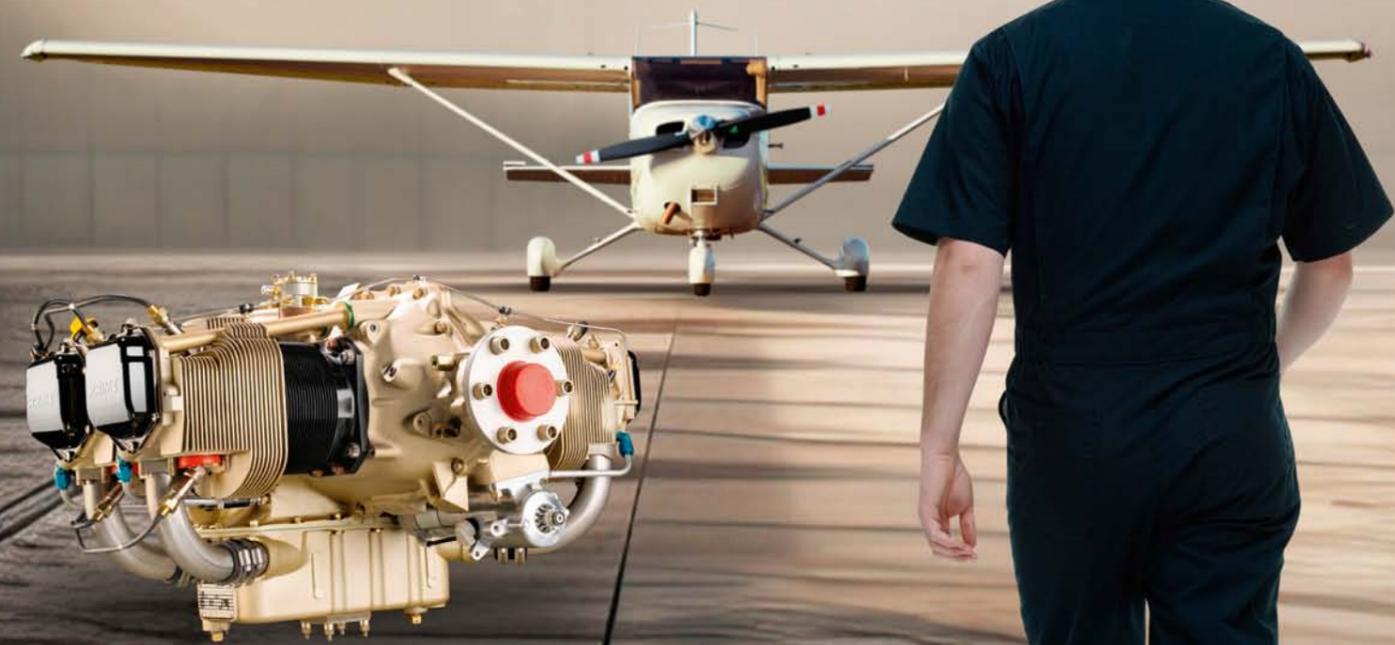
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Meanwhile for piston engines however, General Aviation was taking hold, powered by manufacturers such as Lycoming, Continental and more recently Rotax.

Lycoming Engines

The Lycoming brand was originally (in the mid-1800s) associated with sewing machines, fashion and bicycles. The company turned attention towards automobiles in the early 1900s. Lycoming became Auburn's principle supplier and in the late '20s was acquired by that company.

In 1929 Lycoming produced the nine-cylinder R-680 radial, its first aircraft engine, going on to develop ever more powerful variants which culminated in the huge 35-cylinder XR-7755. However this design was only completed when WWII was ending and at a time when jet engines were seen as the aircraft power of the future. It thus never made it to production.

In 1938 Lycoming developed the O-145 (O for Opposed cylinders) engine which Igor Sikorsky used to power his first successful helicopter.

By the start of the 1960s and now called AVCO Lycoming, the company was producing around 8,000 engines per year, the majority being air-cooled horizontally-opposed 4 and 6 cylinder variants. This is the origin of the O-320, O-360 and O-540 types which are still being produced today, 60 years later.

Textron acquired Lycoming in 1985, later selling Lycoming's turbine division which has ultimately become part of

Honeywell Aerospace. Lycoming piston engines continue to power Cessna, Piper, Cirrus, Diamond, Tecnam, and various other new aircraft types today.

Continental Engines

Continental Aerospace Technologies was formed as an offshoot of Continental Motors in 1929 when it introduced its first aircraft engine, coincidentally at the same time as Lycoming. Continental's design was of a seven-cylinder radial termed the A-70 producing 170 hp.

The company introduced a four-cylinder horizontally-opposed design in the early 1930s, and was the engine selected for the Taylor Cub (later the Piper Cub) in 1938.

Development in the 1950s led to the venerable O-200, selected to power the Cessna 150.

As with Lycoming, turbo-charged and injected model variants followed as the technologies were developed.

Teledyne Technologies acquired the company in 1969, selling to Chinese state-owned AVIC International in 2010. In 2013 the company acquired the assets of diesel aircraft engine manufacturer Thielert.

Continental continues to produce a wide range of petrol and diesel fuelled aircraft engines for numerous aircraft manufacturers.

Rotax

The Rotax business dates back to 1920 but it wasn't until the early 1970s that a group of aviation enthusiasts at the

company set about wanting to develop aircraft engines. Used in a variety of small vehicles, Rotax engines were already of a compact and lightweight design and it seemed they could readily meet the needs of the aviation market.

The 1970s also saw the blossoming of the unregulated ultralight flying movement, with many home-builders finding that the engines Rotax already produced for vehicles such as snowmobiles suited their needs very well.

Rotax met the opportunity in the early 1980s with their 503 UL model, derived from the 503 snowmobile engine. The 503 UL comprised two cylinders with two-stroke combustion and a fan for cooling. It was rated at 50 hp and more than 33,000 examples were sold before the model was discontinued.

Development continued with the next milestone being the liquid-cooled 582 UL which entered production in 1989.

Demand continued to increase and the now ubiquitous Rotax 912 four-stroke engine was released in 1989. This flat-four engine delivered 80 hp for only 56 kg of weight and (at launch) a TBO of 600 hours. Today that TBO is 2,000 hours. Turbocharging and injection systems followed through various versions of 914, 915 and most recently the 916 models.

Rotax comprehensively dominates engine supply for the light sport and microlight aircraft industries, supplying engines to more than 80% of aircraft manufacturers in these segments.

Lawful Wings: The meaning of Evidence

Lawyer and pilot Garth Cameron continues his series on aviation legal advice here with an article explaining the meaning and admissibility of evidence.

The vast majority of criminal cases (most prosecutions by the Director of the Civil Aviation Authority of New Zealand are criminal cases) are decided on the facts.

When the defendant has entered a not guilty plea the Director must prove the elements of the offence beyond reasonable doubt. Not every 'fact', every 'element'. This is a crucial distinction and not an easy one to explain. What is clear is that cases succeed or fail on what can be proven or not proven.

What evidence is admissible? All that are relevant, subject to exclusionary rules. Hearsay is an obvious but much misunderstood exclusion. There are exceptions to the general rule. Often what is said is admissible. It might be a statement against interest - a confession. Or a dying declaration, admissible because a person knowing they about to die has little motivation to dissemble. Or *res gestae*, something that is said in the course of events.

In the civil jurisdiction an action in defamation will require proof that the words complained of were uttered if it is a slander. New Zealand is one of the few countries where defamation (libel if in writing, slander if spoken) is not a crime.

The law of evidence is chaos with an index and in some trials, as the evidence emerges, complex legal arguments will focus on what is admissible.

Evidence may take the form of spoken testimony on oath or by affidavit - a sworn statement in writing. A witness often introduces documents or photos by exhibiting them (attaching them to) to his or her affidavit or producing during spoken (*viva voce*) evidence during the trial.

If the evidence is by affidavit and is in dispute the deponent must appear in court to be cross-examined. When a lawyer is taking instructions for inclusion in an affidavit, the deponent must be told that cross-examination is a possibility.

A fact may be proven by reference to a standard textbook. If I needed to prove that the weight of an aeroplane does not change its flattest glide angle, only the airspeed at which it occurs, I would produce A.C. Kermode (Revised by R.H. Barnard & D.R. Philpott),

Mechanics of Flight (12 Edition, 2012), pages 184-185. If the time the moon rose on a certain night is relevant the time may be proven by reference to a standard almanac.

What to accept or reject is a different matter. This is the difference between evidence introduced and facts found and is a matter for the Judge. If the prosecution evidence asserts that the aeroplane was at 100 feet and the defendant's evidence is that he accepts that he was the pilot and flew the aeroplane but that he was at 500 feet, the judge must assess the contradictory evidence offered and find, as a fact, what the altitude was. If he or she finds that it might have been 100 feet and might have been 500 feet that amounts to a reasonable doubt and the defendant will be found not guilty.

The lawyer's role in the process outlined in the last paragraph is of advocacy, to advocate for the defendant. The technique of persuasion is one of the most interesting parts of what goes on in the courtroom during a trial and will be addressed in a future article.

Garth Cameron 

Garth Cameron BA, LLB, MRAeS, is a lawyer, author, and CPL(A) 'B' cat living in Dunedin. He also holds a Qualified Glider Pilot Certificate and a 'C' cat for gliders. He is the author of *Umberto Nobile* and the *Arctic Search for the Airship Italia* and the novel *A Single Daring Act*.



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Maintenance Shop Insurance Explained

Having purchased Aircraft Hull Coverage, you rightly assume your maintenance shop has what the industry calls 'Aviation Hangar Keepers and Products Liability Insurance'. Bill Beard from Gallagher Insurance at Ardmore explains what that means:

Often I have heard the comment "I don't need hull cover yet as it will be covered by my engineer's insurance when it's in his hangar".

The facts are that this may not be the case. Hangarkeepers Insurance only covers the negligence and legal liability of the hangar owner with regard to aircraft held in their care and custody. If your engineering organisation denies they are responsible or the circumstances of the loss won't stand up in court, then you can't expect any compensation from their insurers. It is very important then, that you maintain your own insurance even for a construction project or lengthy refurbishment programme.

Having clarified that, let's consider a couple of scenarios that might occur totally beyond your control i.e., the hangar burns down, the aircraft (or parts) are stolen or during an engine run the apprentice taxis into something requiring a replacement prop and bulk strip (even worse if your engine is running on condition and you have to overhaul the engine).

If you have your own hull insurance, you may be reluctant to claim under your own policy as there is the policy deductible to consider, loss of No Claims Bonus, a possible premium increase next renewal and a claim that you could be accountable for, for years to come. If the shop readily admits liability and their insurers step up to the mark then it could be convenient to let them get on and rectify the damage.

However, even if there is no dispute with the shop or their insurers denying liability it's always best to lodge a claim under your own policy and let your own insurers appoint a Loss Adjuster to sort out the mess. They will do the negotiations, pay any legal fees that arise and isolate you from the nitty gritty negotiations. By assigning the claim to your insurance company you will have an adjuster that will be on your side and like you will want your aircraft repaired quickly and properly.

In addition, your insurance company will have every expectation of recovering all the costs from the negligent party.

Even though the loss will be a claim under your policy, a loss due to someone else's negligence will not generally be considered adversely in future renewal evaluations. Your insurance adjuster will take charge and if necessary redirect repairs to an alternative repairer (only with your approval) who may be able to get the job done quicker. Your insurers will in turn pursue the negligent party and their insurers for full reimbursement and also assist in the recovery of the deductible and any other relevant expenses. Your insurance company assumes your Rights

of Recovery when they pay the repair costs – this is called Subrogation.

Things naturally take an entirely different course if you or your repair shop are not insured. My best advice therefore is to firstly ascertain your maintenance provider has the necessary Hangarkeepers/ Products Liability Cover and their level of coverage is enough to cover the full value of your aircraft. Low cost maintenance is a bad option when it comes at the cost of no insurance back-up.

To discuss this topic or any other aviation insurance questions, or to seek quotations, contact Bill Beard or Jenni Hellyer at Gallagher's Ardmore Office on 0800 322206.



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Lockheed C-130H Hercules NZ7003 on its final photo flight before refuelling and heading to RNZAF Base Woodbourne to be retired in 2023. As Gavin is Blenheim based, the crew dropped him off home on the last flight of this legendary machine. New J models are on the way.



Boeing P-8A Poseidon NZ4802 on approach to RNZAF Base Woodbourne. Four of these aircraft have replaced the six Lockheed P-3K Orions with No. 5 Squadron.



Lockheed P-3K Orion NZ4201 photographed from NZ4205 heading into Christchurch during the second to last flight this aircraft had before retirement.



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Previous page captions clockwise from top:

Supermarine Mk XIV Spitfire and the Fw-190A8/N meet up in friendly skies at Omas in the lead up to Classic Fighters 2023. Flown by Frank Parker and Liz Needham - how many other couples get to share moments like this?

Doug Hamilton flying a newly restored Curtiss P-40 Kittyhawk out of Wangaratta at the start of 2023. This aircraft was once NZ3175 and served with the RNZAF. The striking colours are due photographing it in bare metal at sunset.

Bevan Dewes flying his magnificent Harvard during a sunset photo flight at Omas a few months ago.

Mark O'Sullivan flying Yakovlev Yak-3U 'Steadfast' along with fellow owner Ronan Harvey. The aircraft uses organic vegetable oil in the Sanders smoke system.

Goodyear FG-1D Corsair ZK-COR flew for the first time for six years in 2023. Piloted by Frank Parker, the aircraft is now owned by Mike Jones and sports an original RNZAF paint scheme. This photo was taken during the first flight as Frank formed up on Harvard 44 flown by Bevan Dewes so we could check for any potential issues after take-off. She was all good!



An ANZAF NH90 arriving at Christchurch airport for the 100th Anniversary of the Air Force in New Zealand.

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Lucy Newell in her DH Tiger Moth enjoying a summer's evening near Masterton.



Richard Hood in his Pitts Special. Behind him is David Wilkinson flying his DR-107.



Simon Holdsworth in his WACO UPF-7 with Jay McIntyre. There are 5 WACO types in NZ.



Andrew Vincent in a resplendent Sopwith Snipe. The Snipe replaced the Camel.



Mark Miller in his M1 Superchamp at a STOL competition.



Grant Harnish in his newly restored Grumman Widgeon.



The rare Polikarpov PO-2 flown by Ryan Southam.



The VL-3 microlight offers very high performance.



Andrew Hope in his recently painted Pitts Special. This is an open cockpit version offering great performance.



An unusual view of Dave Horrell in the Albatros D.II operated by The Vintage Aviator Limited.

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Narromine Airfield in Australia was a busy place during the FAI World Gliding Championships in December.

Mike Strathern at the Australian 'Worlds'

In our last issue regular gliding contributor Jill McCaw introduced us to Mike Strathern, the talented engineer and pilot who was New Zealand's representative at the 37th FAI World Gliding Championships for Standard, 15m & Club Class Gliders held at Narromine, Australia from 2-16 December. Jill reports again here of Mike's results.

We hope you're all wondering how well Mike did. Prior to the World Champs, Mike flew in the Australian Club Class Nationals at Kingaroy, coming in third overall, then flew the NSW State Gliding Championship. In one of those wonderful New Zealand/Australia upsets, he took out the Club Class Trophy ahead of the

local favourites. It was a great lead in for the Worlds.

A world level championship however is an entirely different competition. How would this talented amateur stack up against the world's best?

Mike, his Schleicher ASW20 glider (rego 280) and his flying mascot Mr

Frog, arrived in Narromine, along with the other 77 competitors comprising 21 nations, at the end of November. All pilots set to ensuring their gliders and instruments were ready for the three intense weeks ahead of them. The competition itself is two weeks long but with the practise week leading up to that, the pilots can expect to be in the air for most of the next 21 days.

A gliding contest comprises of daily tasks - the fastest around the task wins 1000 points and the rest are scaled according to their speed. Points accumulate over the course of the competition, and it is possible to win a competition without actually winning a day. Tasks can be from 300 to 6 or 700 km long, or can be an Assigned Area Task (AAT), when the goal is to fly as far and fast as possible within a certain time limit. They're big days in the sky, especially since this is being flown under the hot Australian sun.

Mike is flying in Club Class which allows a wide range of small older gliders within a specified range of performances, with the scores being adjusted by handicapping. Water ballast is not used. There are 29 other pilots in this class.

After a pleasant day for the opening ceremony, the first of what turns out to be 11 days of competition started on December 3. The task was 437.41km and Mike flew it in 4 hours 11 minutes, on his own. He had planned to fly with the rest of the gliders but, "I missed the gaggle by starting too late and they all went around together after starting earlier." He gets 783 points which puts him in 21st place. The next day, Task 2 was a better day, with a finish for the day in 17th place, "My best Worlds placing to date," he laughed. His team of Bernie Sizer and Derek Shipley are bedding in, following the tracking from the ground, and looking for good and bad areas to help him find the best track, passing

the information on by radio. "I was only 12 minutes behind the podium places in the end. So, we are getting there with much to learn.

"I started a little earlier than the podium people, but the start area is really something else. You have to experience it to understand! I would compare it to boxing match in a telephone box. It is really stressful dodging everyone else all doing their own thing, turning different ways, wave soaring, even one I saw in cloud!"

The following day is forecast to be very hot and so a rest day is called. On the 6th, they're flying again with a 365 km task and a late launch to try and catch the best thermals of the day. But not starting until after 2pm means there is no time to waste with getting on track. The sky is blue, so there are no cumulous clouds to mark the tops of thermals. In these conditions it's helpful to fly with the pack and in the gaggles that form at each thermal. The gaggles of gliders aren't as big as historically in Worlds competition as a new system prevents the whole fleet from starting the task at once. Gaggle flying is stressful, but Mike manages it successfully. A lot of people didn't make it home, vastly devaluing their points, and Mike makes it to 15th overall.

The next day, Task 4, was a 3.5 hour AAT task. "Go as fast as you can for 3.5 hours AND get back home," Mike explains. After a mixed flight that involved height (to 11,000 feet on oxygen), blue gaps and rain, he made it home and climbed another placing to 14th overall.

With 42°C predicted for the next day, another rest day was called. Task 5 was another 3.5 hour AAT, the weather still very hot. Mike barely scraped home, coming in below the finish line



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"You're miles from *#?! everywhere," said the helpful passer by.



Mike's explanation: Coming home at best glide of 58 knots at 6.33 pm at 2200 ft AGL under a dead sky (airfield is 800 ft ASL) and 17.9 km to go to Narromine. I'll arrive at 1014 ft AGL so I will only lose 1200 ft to cover 18 km. I need to achieve a minimum glide angle of 25.4:1 to get home. Some of the info is in my cockpit but most of all LOOK OUT THE WINDOW at all that flat land.

height of 2,500 feet and accruing a 22 point penalty, but at least he made it back. Task 6 was a racing task, and on it went.

One day the morning briefing contained information on surviving in the outback for three days without water. Many of the areas they fly over are uninhabited. On Day 7 Mike did land out. "I flew the farthest distance in my class today, I was ripping up the sky for speed, but I didn't get home. Bollocks!

"A local fella passed by [when he was waiting on the ground] and when I asked where I was, he proudly said I was, 'Miles from *#?! everywhere!'"

Mike's crew retrieved him in time for the Kiwis and Aussies to reignite the Origin-of-the-Pavlova War at International Night. Mike insists the Kiwi's version was the best.

With a few sore heads (but not in the Kiwi camp), the grid lined up for Task 8, but bush fires in the area are creating smoke which reduces visibility and reduces the strength of the thermals. Mike's only plan for the day is to get home before dark. Eventually the day is cancelled.

Smoke is still a problem for Task 8 mark 2, an AAT task of 3.15. "A day to beat the weather back. Cost me 100 points coming home too early, but I'm not in a flipping paddock dodging snakes."

By the end of Task 10 the smoke has cleared, Mike is enjoying himself and his score is back up to 15th overall.

15th December is Task 11 and the last day of the contest. It is another 3.5 hour AAT and the sky is blue. This is Mike's report from the end of the day.

"Well that's a wrap folks. My first world gliding championship and I finished 16th in the world.

"Today I had a fun ride in a whole mix of conditions and brought 280 back safely, one last time for a hectic landing on a very busy airfield. It was my best day with a 12th place and 822 points, but sadly I crossed the start line 7 seconds late so had a 50 point penalty, but it didn't affect my final overall position which was good.

"We flew for 11 days and every single day we did well over 300 km, sometimes over 400 km, so I've flown around 3600 km and some 45 hours in the air. I've had an amazing crew of Derek and Bernie who supported me, plus many others who have helped me get here and be here.

So, it's good night and I look forward to telling the tale for many years to come, if you want to hear about it."

The Club Class World Champions (because we need to mention who actually won) were in 1st place, James Nugent (Australia); in 2nd place, Uwe Wahlig (Germany) and in 3rd place, Stefan Langar (Germany). The winner of the 15m Class was Sebastian Kawa (Poland) – no surprise there. And the winner of the Standard Class was Tom Arscott (Great Britain).

Jill McCaw



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New Year's Day First in the World Fly-in at Hood Aerodrome

There was plenty of variety at this year's annual First in the World Fly-in held at Hood Aerodrome on 1 January. 35 aircraft encompassing 30 types arrived for the day.

First to arrive was Richard Wallace in Piper Cherokee DUN.



Hosted by the Wairarapa Aero Club, this year's 'First in the World' fly-in was held at Masterton's Hood aerodrome. This was the 19th year the event has been held after being originated by Athol and Betty Sowry at their Athbey Farm airstrip near Woodville. Clive Wilkinson attended and reports here.

Since 2017 when the annual First in the World Fly-in moved from Athbey Farm to become hosted by one of the surrounding aero clubs, flyers from around the country have gathered on New Year's Day to welcome in the New Year with a dose of aviation camaraderie and a nice lunch. This year it was the turn of the Wairarapa Aero Club at Hood Aerodrome.

The weather prior to the event had not been the best but although the day started with rather poor conditions it improved quite early and with visiting aircraft asked to fly in by 11am

things were looking good. Masterton District Council waived landing fees for the event so pilots only had to pay \$15 per head for a magnificent lunch prepared by the aero club. There were 35 arrivals encompassing 30 different types of aircraft.

Participants flew in from around the lower North Island including Palmerston North, Upper Hutt, Levin, Whanganui, Feilding, Whakatane, Dannevirke, Hastings and Napier, and also from Timaru. For the record aircraft included Piper Cherokee DUN, followed by Tecnam P92 Echo TES, Glasair II JDL, Aviat Husky USK, Tiger Moth BEF, Dyn'Aero MCR01 TFB, Piper J-2 Cub AGD (built in 1938 and one of the earliest Piper Cubs about), SPA Panther PMD, Tecnam Bravo LLY, WB548 Chipmunk WB548 (ARL), Airtourer NZ1761 (LDG), Vans RV-4 RVH, Cessna 172 JSG, Zenair Zodiac ZOT, Vans RV-6 VRV, Alpi Pioneer 300 LPD, Sky Arrow SKO, Jabiru J160 SLH, Cessna 152 ELA, Grumman American AA-5 DKW, Zlin Aviation Savage

SCA, Tecnam P92 Echo TRD, Rans Courier PTP, Beech Bonanza EDS, Alpi Pioneer Jay Hawk CWJ, Paul Scherrer KB3 Autogyro RKK, Sportcruiser WGK, Vans RV-12 TFP, Piper Cherokee DGL, Magni Gyro JKM, Gipsy Moth ADT, Gardan Minicab RJK, Cessna 172 DXL, and Cessna 177 DWU.

With arrivals complete it was time for the visiting pilots and passengers to enjoy the BBQ lunch and the weather with seating both in and outdoors. Wairarapa Aero Club President Kevin Ormond formally welcomed everyone and then presented awards as follows:

- For arrival nearest to the 11am recommended time: Bruce Gray in Cessna 172 JSG from Feilding.
- For first arrival: Richard Wallace in Piper Cherokee DUN (arrived at 9:50am).
- For furthest travelled: Brian Curry in Cessna 172 DXL who had flown up from Timaru that morning (a 2.75 hour trip).

Athol Sowry then addressed the gathering and announced that next year's event would be held at Feilding (Taonui) airfield and the one after that - the 21st - would be back at Athbey Farm in commemoration of the event's humble beginnings there. He also mentioned that he and Betty had flown down to Masterton and it was the first time he had flown to the event in the 19 years - thanks to Vince Payne in Piper Cherokee DGL from Dannevirke.

Colin MacMillan of Feilding's Manawatu Aviation Club wrapped up the proceedings with an invitation for everybody to join him at next year's 'First in the World' at Feilding.

It was a great turn-out this year and a great way to start the year. Masterton Council came to the party with free landings, the Wairarapa Aero Club were excellent hosts and all in attendance are looking forward to repeating the occasion again in 2025.

Clive Wilkinson 



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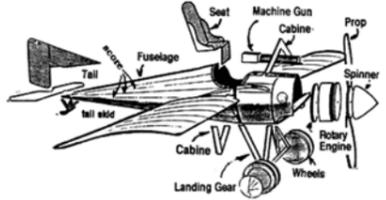
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Russell Brodie and Rangitata Island

Regular KiwiFlyer contributor Jill McCaw lives in Christchurch. That's not too far from Rangitata Island, famous in aviation circles as the home of the Brodie family. Jill rightly thought they were well-deserving of an article in KiwiFlyer so called in for a visit a while back and sent this report.

Way down south, at the edge of the Canterbury Plains is a unicorn. Well, something equally as mythical – an airfield that doesn't charge landing fees. There are two grass runways, the main strip 12/30, is over 1000 metres long, with a shorter one running 03/21. The Rangitata Island airfield, south of the Rangitata River, east of State Highway One, is on the farm of the Brodie family, and the runway has been in use for over 90 years. There are photos of the Canterbury Aero Club visiting in 1930.

Three generations of the family have been welcoming aviators to their airfield with Russell's son Ross, the 4th generation, planning to come home one day to continue restoring some of the many aircraft that are in pieces on the property. The family have been collecting and restoring aircraft for a long time. Russell grew up surrounded by Tiger Moth parts. In the '60s it cost more to keep Tigers certified with CAA than they were worth, and many were scrapped. A lot of those pieces found their way to Rangitata Island.

Currently, Russell Brodie has more than 50 aircraft, either

airworthy or in pieces, stashed away in hangars and sheds. His bright yellow Tiger Moth ZK-BRL is a familiar sight in the area. "When people offer things, I never say no." The collection contains bit and pieces of New Zealand's aviation history, but particularly microlights.

There are over 30 microlights on the property. Russell has been involved in microlights since their inception and has spent more than 30 years representing RANS in New Zealand via his company East Canterbury Aviation Ltd. He has sold 126 RANS aircraft and has made many connections with pilots around the country.

Flying was going to be Russell's career. Both his parents flew, and he couldn't understand why other people's mothers didn't fly planes. Unfortunately, a farm accident in the '80s was to cost him an eye. Stringent medical requirements signalled the end of his dream. Fortunately for Russell, microlights arrived in New Zealand at just the right time. The medical requirements weren't as strict as for other aircraft, but he still had many hoops to climb through. He had to prove that he could safely see to fly, doing circuits with a CAA testing officer. It took more than three years to get his class 2 medical with help from people like Pam Collings who was working with the CAA at the time. Russell says, "I just kept annoying them, and I got there in the end." It took another 13 years to get his class 1. "The Principal Medical Officer asked me what I wanted. I said, 'I just want to teach others to fly.'" He's certainly done that, logging



Tiger Moth NZ-1443 is a familiar site in South Canterbury.



After an ANZAC Day service - Pitts, Tiger and a Yak on departure.

3000+ hours in the right-hand seat – and making many more friends and contacts along the way.

Russell's son Ross became well known in aviation circles by soloing in 16 different aircraft on his 16th birthday. Ross rapidly moved onto instructing himself and has now been an engineer with Air NZ for four years.

As well as actual aircraft, Russell collects other aviation military memorabilia. He has Lord Elworthy's full uniform. Timaru born Elworthy was Marshal of the Royal Air Force (1963 - 67) and Chief of the Defence Staff. Perhaps the most poignant pieces in Russell's collection – in a display case in the pilot's lounge by the airfield – are the medals given to mothers who had lost their sons in WWII. There are medals from many different countries, including from Germany, where mothers were celebrated for creating more sons to fight for the Fatherland.

Russell has an astonishing variety of 'interesting stuff' packed into very small spaces and it would be wonderful if funds could be found to turn it all into an actual museum that people could view. Money would certainly help too to provide funds and skills to restore the many aircraft in pieces. There is even a Ka7 glider, (originally bought new for Wigram Aviation Sports club) that is suffering from glue separation. Russell would love to get a gang together to get that flying again.

Visiting Rangitata Island airstrip is a real treat. Russell will happily discuss flying all day. If you're hungry, there are pies in the freezer and a microwave in which to heat them (although I was lucky enough to have a cooked dinner made by Russell's wife Linda). If you're looking for a good cross-country destination, give Russell a call, or just fly in. You'll be welcome.

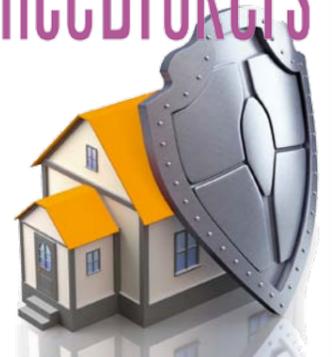
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2023 RAeS Symposium

Themed as 'Our Sector: Aviation and Aerospace in Aotearoa', the annual Royal Aeronautical Society (NZ Division) Symposium was held at Parliament's Grand Hall early in November 2023. Paul Harrison attended and in Issue 96 of KiwiFlyer he reported on awards made at the symposium dinner. Here he provides an outline of the symposium sessions and presentations as given by various stakeholders and participants in the NZ aviation industry who spoke of their current situations and how they see the years ahead unfolding.

The overriding commentary from presenters and the audience at the 2023 RAeS Symposium held at Parliament on 3 November, was that unless there is immediate action in a wide range of associated endeavours, the future for the industry won't be anywhere near as bright as it could be.

In his opening remarks RAeS (New Zealand Division) President Shaun Johnson, observed that as identified in the symposium the previous year, attracting young persons into the industry continues to be challenging. Secondary school leavers who opt to enter university may not be aware of the many career opportunities offered in the aviation and aerospace fields. Shaun said there is also an awareness by the younger generation of the need to combat climate change, and with volumes of information being published on fossil fuel use, the perception for many is that aviation is not a climate friendly career choice. Shaun also noted

that already, several governments are working on restrictions to some conventional aviation operations because of their impact on carbon emissions. The aviation industry of the future must in a relatively short timeframe adopt alternate fuel uses to reduce those emissions. His opening remarks were followed by presentations from a selection of industry participants.

New Zealand Defence Force

Keynote speaker Air Marshal Kevin Short, Chief of Defence Force gave an overview of the current strategic environment both in our region and further afield. "We no longer live in a benign environment and there are competing actors engaging in overt competition for influence in our region," he said.

Globally the world is moving from a rules-based order to a power-based order. A focus on economic and trade-based issues are moving to a focus on security. Supply chain production is moving from just-in-time to just-in-case delivery models.

Kevin says the NZDF is facing a perfect storm; "We are regenerating after providing COVID support and like industry we are facing economic challenges, struggling with logistic supply chain problems, and with a high attrition rate as our personnel leave for other career paths." Despite inducting over 1000 recruits per year the NZDF has lost 30% of its skilled personnel at all ranks of the organisation. Unfortunately, once trained, these people are highly sought after for their skills and disciplined work ethic.

AI support is now critical on the modern battlefield and an immediate NZDF need is for digital modernisation to allow smart decision making in real time. Modern cybersecurity is also essential, and a project is underway to improve NZDF's use of these techniques.

In terms of aviation assets, a Seasprite replacement project is underway and new aircraft acquisitions such as the P8-A and the C130J are enabling us to be an effective partner in future joint operations.

Airways

James Young, CEO of Airways gave an overview of Airways in NZ and their emphasis on providing safety systems for aviation operations. Post-COVID Airways, like other sectors, is facing a personnel shortage, with difficulty in attracting new recruits to join.

The rate of change in technology, climate, and commercial aviation operator expectations are also placing pressure on Airways. Resilience of infrastructure at some airports is now a concern resulting from increasing extreme weather events. Training of existing and new personnel for the demands of the newer ATC systems is paramount, along with leadership skills for career progression.

Reducing carbon emissions will require adjustments to how the Airways system adapts to changes that commercial operators will demand, for example: better flight path profiles around airports.

This year Airways is improving its safety management system and corporate safety culture, organisational development, and starting on a project to replace the Auckland Control Tower. Development of a long term strategic plan is also in the pipeline as many existing systems are based on rapidly dating technology.

Sustainability projects include an increasing use of solar power at remote navigation facilities, and an investigation of hydrogen power generation at some locations.

NZCAA

Keith Manch, Chief Executive and Director of the Civil Aviation Authority spoke to the current and future direction of the CAA in its role as the regulator for NZ aerospace.

There are three main current focuses: the Air Navigation System Review, Aviation Aotearoa - Sustainable Aviation, and the Aerospace Strategy.

The Civil Aviation Act 2023 which must be fully implemented by April 2025 requires the CAA to ensure current and new rules are fit for purpose.

A funding review is underway to identify a more sustainable income model for CAA.

Emerging technologies have resulted in a more flexible approach by the CAA to accommodate these technologies in an appropriate timeframe; "The approach to how CAA carries out its work is being reviewed; especially, core values, integrity and collaboration, and professionalism. Modern regulatory practice requires a fit for purpose regulatory framework to meet conventions, laws, regulations and rules. There must be an earned autonomy approach to regulation, consistency in decision making, transparency, responsiveness, and communication. The CAA must be open to co-regulation and have a balance between goal-based and prescriptive regulation," said Keith.

In summary he observed the CAA must ensure that rules and regulations are fit for purpose and dynamic with intelligence-led and risk-based decision making.

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RNZAF

The recently appointed Chief of Air Force, Air Vice Marshal Darryn Webb, provided an overview of current RNZAF operations and challenges faced. “Responsiveness is key to Air Force ability to provide what government requires, from civil assistance in times of disaster to combining with overseas allies and friends in joint operational situations. We need to be ready to operate in a medium threat environment,” said Darryn.

Resilience of personnel, infrastructure and systems is essential, and co-operation with Australia is key to providing for each country’s mutual defence objectives. Regular overseas training is fundamental to the development of the service but there will be times where the need to have air assets overseas will reduce capacity to respond to local events such as cyclone Gabrielle.

The four P8-A aircraft are reaching the point where they can be fully deployed on operational missions for up to a month, working with other forces for above surface and underwater detection capability. The infrastructure to support the aircraft will be completed next year, and the flight simulator ready in 2025.

The C-130J aircraft project is progressing with anticipation that all five of the new aircraft will be in NZ by November 2024. A Transitional Unit has been formed at Whenuapai so there will be no gap in air transport capability between the retirement of the current C-130 fleet and the operational debut of the C-130J.

Replacement projects for both the Seasprites and B757s are in the definition phase.

Opportunities for Air Force personnel to develop their skills and careers must be addressed to ensure they remain in service. Recruiting of personnel is an ongoing challenge and the Air Force has several initiatives in place.

Air New Zealand

An overview on Air New Zealand’s current operations and future aspirations was presented by Captain David Morgan, Chief Flight Operations and Safety Officer. Over the last year, Air NZ domestic operations are back to 100% and international are at 90%. 3000 personnel laid off during COVID are back and the B777-300 fleet mothballed in the US is flying again with other new aircraft coming into service. Four new domestic A321s and eight B787s are coming, along with a new hangar at Auckland. Earlier B787s are being refitted, including with economy lie flat pods.

However demand for flights is uncertain, fuel costs have soared and there are supply chain issues for parts. David says there are many opportunities for industry which needs a long-term plan for development and sustainability over the next 50 years – requiring coordination across government agencies and regulation that is fit for purpose.

Air NZ intends to operate next generation aircraft as commercial demonstrators on domestic air routes

by 2026. The aircraft may be electric, hybrid or hydrogen powered. A regulatory framework, government policy and support infrastructure will be required in that timeframe - for example sufficient volumes of clean water and a substantial green electricity supply at each airport the aircraft will be operating at.

David also noted the shortage of pilots, technical staff, and other support personnel in all areas of the industry, saying that collaboration between competing interests is essential to recruit and maintain sufficient personnel to sustain the industry for the future.

Airport Association of New Zealand

The members of the Airport Association of New Zealand operate 46 airports around the country. Billie Moore is the CEO of the association and talked about their activities, challenges, and opportunities. He particularly noted that aviation decarbonisation requires a network solution with a need to scale renewable energy generation, transmission, and alternative fuel infrastructure in a coordinated way. Airports which are often owned by Councils need to invest now for uncertain technical scenarios. Billie said “There is a regulation crunch coming, with alternative fuels and new technology all requiring iterative regulatory guidance to keep up with demand and innovation, while ensuring appropriate controls. Not everyone in the industry agrees on what needs to be prioritised.”

The Association has introduced a new award this year ‘The Emerging Leader of the Year’ to promote airport careers and to highlight those who have made their mark.

NZ Aviation Federation (NZAF)

The New Zealand Aviation Federation has 16 members comprising representatives from most major aviation organisations in our country with a combined representation of more than 10,500 aviators who own more than 4,000 GA aircraft and 42,000 model aircraft and drones. Most of the organisations are non-commercial. President Bob Henderson updated the conference regarding NZAF activities which aim to promote aviation and protect the interests of those organisations that are members.

The year has seen a lot of support towards Part 149 organisations and in finding ways to assist the CAA in their oversight of these activities.

Bob expressed a concern over resource



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constraints in running the Air Navigation System and also spoke of ensuring rules are fit for purpose – achieved in part by giving CAA the resources to do the work.

He echoed concerns raised that district and council plans are hindering agricultural and GA activities – and that some councils are simply not recognising the strategic importance of regional fields nor ensuring their resilience against natural disasters.

Aviation New Zealand

President of Aviation New Zealand, Ashok Poduval spoke of the organisation's priorities, noting that aviation is a very high contributor to the nation's GDP which is not being recognised in government circles. Ashok agreed with others that areas needing addressing include the challenges of staff shortages, supply chain issues, border clearance restrictions slowing down the overseas students coming to NZ for quality aviation training, a lack of government funding to the regulatory authority, and a general downturn in agricultural aviation.

"The first priority we see is a collaborative long-term strategic vision for the future growth of the aviation sector in NZ. A fit for purpose funding model, part of the 2024 review for the CAA needs industry input. This requires the recognition of not only where funding will be generated from, but must also take into account the wider public interests. The burden on Commercial and GA operators to meet the majority of CAA funding cannot be sustained."

Another area of concern is the lack of coordination between all the government agencies that operate in silos, but have an input into aviation in NZ. These range from the Ministry of Transport, MBIE, MPI, Ministry of Education, and the Ministry of the Environment. With all of them cutting costs, aviation concerns are low on their list of priorities.

In terms of the aviation regulations, performance and risk-based rules are what the industry requires, and more work is needed with the CAA to move in this direction.

Pilot training has been crippled by the Ministry of Education cutting back on the EFTS (Equivalent Full Time Student) loans and the assistance young persons can obtain to undertake training.

Ashok also confirmed that various council district plans are

impacting on the ability of flying training schools to operate in parts of the country. This also applies to the operations of helicopters where noise abatement rules are restricting important operations.

Aircraft Owners and Pilots Association of NZ (AOPANZ)

As President of AOPA NZ, Sue Kronfeld opened her presentation by getting the audience to stand and rotate themselves to various points of the compass, primarily to see if they were still awake after the long sessions preceding her.

AOPANZ represents over 1,500 aviation enthusiasts around the country. The association's intent is to promote aviation safety and to agitate for pilots' and owner's aviation rights. Sue spoke of the association's work on events for members, the importance of mental health throughout the GA fraternity, and support of aviation careers through liaison with secondary schools.

Presentations from corporates active in the aviation industry

A variety of presentations were given by heads of companies who work within the aviation industry of New Zealand.

Chief Engineer for engineering consulting company BECA, Robert McGiven, introduced the company and spoke of their involvement with the upgrade of onboard systems for the RNZN Seasprites, as well as building specialised test equipment to evaluate and support the new systems.

CEO of Flight Structures, Jon Kerr spoke about his company which has a 20 year history as a consultancy and design and manufacturing organisation specialising in type certification and modification of aircraft and systems. The company is currently supporting Merlin Labs and their autonomous piloted aircraft programme.

CEO of Kea Aerospace, Mark Rocket provided an overview of the company's operations and future direction. They have designed and manufactured two solar powered, remotely piloted aircraft that can fly at high altitudes for lengthy periods. The Kea Atmos Mk1 which has been test-flown at lower altitudes, has a wingspan of 12.5 metres and weighs under 40 kg with a camera payload of around 2 kg. The Kea Atmos Mk2 is under development to fly at higher altitudes continuously for months at a time, with a payload of 5-6 kg. Further flight tests will be conducted during

this summer.

Graeme Gale ONZM, Managing Director and CEO of Helicopters Otago provided an overview of the company's current operations involving 20 helicopters, operating mostly from Dunedin south and across to Fiordland. With 28% of NZ's landmass in their area of operations, the company has extensive involvement in SAR and EMS (including the Southern Ocean as far as Auckland and Campbell Islands) and recently set up EMS NZ to train and supply paramedics for the helicopter operations - following the withdrawal of the St John support for this need.

Fabian Kopu, CEO Ravensdown Aerowork, gave an overview of how their company has used aircraft over many decades across ten bases throughout the country. Fabian spoke of the importance of technology in modern ag aviation and noted supply chain issues with fertiliser supply that have led to a 35% application decrease in one year. He also echoed previous concerns raised of restrictive noise abatement by councils as well as difficulties with staff shortages across the aviation industry.

Overseas Guest Speakers

The final speakers for the symposium were Captain Jonathan Legat and Geoff Wilkinson.

Jonathan Legat is the Master of the Honourable Company of Air Pilots in London. The organisation has members from all aspects of aviation with an objective to establish and maintain the highest standards of air safety through the promotion of good decision making among pilots and navigators.

Of concern to the Honourable Company is the emergence of more mental health problems among aviators, a hidden issue with the potential to suddenly manifest itself in situations that compromise flight safety. An all industry approach to early identification of symptoms and to provide support to an individual before it becomes critical means a more open discussion is required among aviators on mental health, and assistance that should be given including counselling. Early intervention can result in aviators returning to a successful career.

Geoff Wilkinson is the immediate Past President of the RAeS (Australian Division). Geoff provided a briefing on

the forthcoming International Symposium on Aerospace Technology (APISAT) to be held at Sydney, September 2026. To conclude the symposium, Geoff reiterated the common problem of shortages of people being retained or coming into the industry, supply chain issues, funding and the challenges of new technology. "Cooperation, collaboration, cohesion, and compliance are critical for the future, along with the lobbying of the political system to gain appropriate decision making to further aviation enterprises," he said.

Paul Harrison 

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ZK-GDM Stemme S10-VT



This Stemme S10-VT is the third Stemme self-launching sailplane owned by David Craill of Blenheim. The first was a Stemme S10 - a standard version which had a Limbach engine, the second a S10-V which had the Limbach engine and a variable pitch prop and this new one is a S10-VT which has the variable pitch prop and a 115 hp Rotax 914F engine. David says this new S10-VT Stemme is really the only self-launching sailplane that can achieve 140 kts at 10,000 feet and has a glide angle of 1-50 (compared to a glide angle of 1-58 achieved by the very best gliders).

Produced by Stemme AG in Germany, the glider's engine is mounted just behind the cockpit with a long drive shaft to a propeller in the nose. It features an

unusual folding propeller which is stowed inside the nose-cone when the engine is not in use. The nose cone is opened forward and the propeller blades come out when the engine is started. When the engine is stopped the blades fold back into the nose and the nose cone is manually closed. The 11m centre section of the 23m wing houses two 60 litre fuel tanks for an endurance under power of 6-7 hours which though impressive is really only there for launch and as a back-up. The Stemme S10 also has several unusual features such as an undercarriage with tailwheel and a side-by-side cockpit - including 5 glass screens and oxygen. It does not have a tow hook connection so it must self-launch.

The two main wheels retract and lower electrically, folding in on top of each other, though they can also be lowered manually if needed. The tailwheel is steerable. Wings can be folded to reduce the necessary hangar span to 11.4 m.

David bought ZK-GDM second hand from Texas and at time of writing it is currently in transit. On arrival the container will be sent to Blenheim in preparation for assembly and CAA inspections.

As an aside, David's previous glider ZK-GSI was the first glider participant in Poppy Flight. His leg of the flight was one of the few over Cook Strait. He flew out of Omaka climbing to 7000 feet at Tory Heads and then glided over the Strait to the little settlement of Makara Beach which allowed ridge soaring from there up to Paraparamu. David says it was a nice nor-west day but he had to motor back.

ZK-SPY Cessna 206H



ZK-SPY was imported from Australia by Aerosolutions of Nelson for long term lease to Landpro's Aerial mapping operation. It is a 2008 Cessna 206H that had accumulated just under 12,000 hours on mapping operations in Australia as VH-XBF, so arrived pretty much in

a 'Plug & Play' configuration. Mapping ops are very kind to aircraft, often flying 4 to 5 hours at cruise power settings or less between landings.

Landpro Ltd. operate out of three key locations to service the needs of their Central Otago, Southland and North Island clients. Their primary office is based in Cromwell, with additional offices in Gore and New Plymouth. They undertake Aerial Surveying and Geospatial work, Farm Environmental Management and Planning and Resource Management, and general surveying.

Aerial Operations Lead for Landpro Ltd., Grant Gillespie explains that the company specialises in the delivery of high resolution aerial photography and LiDAR mapping services across New Zealand with a friendly and collaborative approach to survey projects. "We are surveyors who happen to use a plane to do our field work." Their aerial specialists process data for accuracy and speed and they have years of experience capturing and processing aerial data from which they have built a solid reputation for great service.

SPY has been fitted with a state-of-the-art Leica Terrain Mapper. This is an imagery and LiDAR combo for gathering data to build digital elevation models used as base information for regional planning and design purposes. Recent work has included covering the Gisborne region affected by cyclone Gabrielle. For this 11,000 square kilometre region they collected four or more elevations per square metre, a truly massive amount of data.

Aerial mapping operations are conducted at a range of altitudes depending on the design purpose. Imagery, for which they use a Navajo, is often gathered from higher elevations, as high as 25,000' although currently they are not operating above 18,000'. LiDAR is below 10,000 feet, a

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GIO	Schleicher AS 33 Es	Mr P C Driessen	Auckland	Glider
GZC	Schleicher AS 33 Es	Mr W Dickinson	Wellington	Glider
HAW	Hughes 369D	International Heliproperties NZ Ltd	Auckland	Helicopter
HBB	Airbus Helicopters AS 350 B3	Mr B J Comerford	Porirua	Helicopter
HBU	Eurocopter AS 365 N3	International Heliproperties NZ Ltd	Auckland	Helicopter
IDF	Airbus Helicopters AS 350 B3	Tourism Milford Limited	Queenstown	Helicopter
IGG	Eurocopter MBB-BK117 C-2	Helicopters Otago Limited	Mosgiel	Helicopter
OMU	ICP Savannah S	North Otago Aero Club (Inc)	Oamaru	Aeroplane
PCG	Pilatus PC-9/A	Airlift New Zealand Limited	Auckland	Aeroplane
PDN	Vans RV-3	Mr P D Nunn	Waitara	Amat Built Aeroplane
SPY	Cessna 206H	Landpro Limited	Cromwell	Aeroplane
TVL	JMB Aircraft VL-3TE-915 UL	Private Owner		Aeroplane
TVT	Tecnam P2006T	New Zealand Airline Academy Ltd	Oamaru	Microlight Class 2
TXC	Boeing 737-8FE	Texel Air Limited	Auckland	Aeroplane

RECENT TRANSFERS

ATS	Auster J1N	Mr R A McKitterick	Wellington	Aeroplane
BZL	Piper PA-14	CNC Aviation	Rangiora	Aeroplane
CCW	Beagle A.109	Mr E A Beijeman	Auckland	Aeroplane
DAC	AESL Airtourer 150	Airtourer Flying Group	Rangiora	Aeroplane
DAF	Diamond DA20-C1	NZ Int Commercial Pilot Academy Ltd	Whanganui	Aeroplane
DCR	Cessna 182P	MF & SA Train Family Trust	Waverley	Aeroplane
DEJ	Piper PA-28-140	Mr R Bosman	Paraparamu	Aeroplane
DJI	Piper PA-28-140	Mr A M Hintz	Rangiora	Aeroplane
DYA	Aerospool Dynamic WT9	Private Owner		Microlight Class 2
EPD	Cessna 150J	Mr B C Washer	New Plymouth	Aeroplane
EHL	Cessna 172N	Mr F A Fullerton-Smith	Turangi	Aeroplane
EJR	Cessna 172N	Aralier Trust	Auckland	Aeroplane
GGQ	Schempp-Hirth Duo Discus	Auckland Gliding Club (Inc)	Drury	Glider
GTP	Rolladen-Schneider LS 3-a	Mr J R Smith	Cromwell	Glider
HBT	Airbus Helicopters AS 350 B2	Inflite Limited	Auckland	Helicopter
HDG	Airbus Helicopters AS 350 B2	Inflite Limited	Auckland	Helicopter
HIC	Schweizer 269C	Mr P M Moore	Gisborne	Helicopter
HLI	Robinson R44 II	Henry Adams Contracting Limited	Hokitika	Helicopter
HLO	Robinson R44	Deano's Earthmoving & Logging Ltd	Taupo	Helicopter
HQF	Schweizer 269C	Miss A Watson	Wanaka	Helicopter
HQR	Bell 206B	Sanddale Farm Limited	Winton	Helicopter
HQR	Bell 206B	Skywork Helicopters Limited	Warkworth	Helicopter
HQR	Bell 206B	Distinction Hotels New Zealand Ltd	Invercargill	Helicopter
HQR	Bell 206B	Te Anau Heli Lease Limited	Te Anau	Helicopter
IBJ	Robinson R44	Coast To Coast Helicopters 2013 Ltd	Blenheim	Helicopter
IML	McDonnell Douglas 500N	Inflite Limited	Auckland	Helicopter
IRO	Eurocopter EC T20 B	Pacific Helicopters Ltd (PNG)	Papua New Guinea	Helicopter
ITG	Kawasaki BK117 B-2	Heliflite Charter & Training Limited	Papakura	Helicopter
IWO	Robinson R44	Stormbird Limited	Auckland	Helicopter
IWD	Robinson R44 II	Search And Rescue Services Limited	Taupo	Helicopter
IXD	Airbus Helicopters MBB-BK117 B-2	Mr P D Anderson	Havelock	Microlight Class 2
JHU	Titan Tornado II	Juliette Aviation Ltd	Timaru	Aeroplane
JIE	Socata TB 10	NZ Int Commercial Pilot Academy Ltd	Whanganui	Aeroplane
JMG	Cessna 172S	The Life Flight Trust	Wellington	Aeroplane
LFW	BA Jetstream Model 3202	Mr S W Richmond	Stratford	Microlight Class 2
LHC	L M Harris CASH Aviation Model 3	LME Syndicate	New Plymouth	Microlight Class 2
LME	Vans RV-12 UL	Mr D Laming	Christchurch	Aeroplane
MGU	Cessna 182P	Private Owner		Aeroplane
MJY	Piper PA-28RT-201T	Singh Enterprises	Palmerston North	Aeroplane
MYF	Partenavia P 68B	Tonic Engineering Limited	Auckland	Aeroplane
PZN	PZL-104 Wilga 35	MacKenzie Aviation Limited	Gore	Aeroplane
RUR	Air Tractor AT-402B	Skydive The Mount Limited	Maunt Maunganui	Aeroplane
SBB	Cessna 182N	Mr D G Mitchell	Amberley	Microlight Class 2
SDR	ICP Savannah S	Mr B J Marr	Stratford	Microlight Class 2
SND	Monnett Sonerai ILS	Mr P M Husband	Featherston	Microlight Class 2
TJK	Micro Aviation Bantam B22J	Corby CJ 1 Starlet U/L	Hokitika	Microlight Class 1
TNT	Corby CJ 1 Starlet U/L	NZ Int Commercial Pilot Academy Ltd	Whanganui	Aeroplane
TTC	Diamond DA 40	MyFlight Limited	Auckland	Aeroplane
UFS	Piper PA-28-181	Hood Lyver Partnership	Whangarei	Aeroplane
VHC	Aeroprakt A.32 LSA	Mr L Venables	New Plymouth	Aeroplane
YKA	Yakovlev Yak-52	ZME Syndicate	Rangiora	Microlight Class 2
ZME	Zenair CH701 STOL	ZZR Syndicate	Dunedin	Aeroplane
ZZR	Cessna T182T			

RECENT DEPARTURES

FAT	Cameron A-210	Ballooning Canterbury.Com Limited	Darfield	Balloon	W/d
HDX	Robinson R22 Beta	Advanced Flight Limited	Kerikeri	Helicopter	W/d
HEA	Airbus Helicopters EC 130 T2	Rotorcraft 2017 Limited	Auckland	Helicopter	Exp
HUS	Bell 206B	Heliops Southland Limited	Hamilton	Helicopter	W/d
HXM	Robinson R44 II	Helicopter Charter Nelson Limited	Otautau	Helicopter	Exp
HXX	Hughes 369D	Cranwick Enterprises Limited	Rimond	Helicopter	Exp
IOG	Hughes 369E	Pacific Helicopters Ltd (PNG)	Tolaga Bay	Helicopter	Exp
JFC	Kawasaki BK117 B-2	Mr R C Burns	Papua New Guinea	Helicopter	Exp
RKB	Socata TB 20	Mr M E Ragg	Australia	Aeroplane	Exp
	Cameron N-65		Cromwell	Balloon	W/d

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good fit for the 206. Additionally, they operate a Seneca on Bathy LiDAR, with which they are able to penetrate water, so as to provide water body profiles. They also use a helicopter mounted LiDAR unit, which allows operations that require lower and slower capture than can be achieved safely by fixed wing aircraft.

ZK-FAT Cameron Z-225

This Cameron Z-225 Balloon is registered to BallooningCanterbury.com Ltd. based in Darfield and will replace their Cameron A-210 which has logged over 1100 hours and was still in tidy flying condition when retired.

Ballooning Canterbury was started by Kate and Michael Oakley in 2012. Michael is an experienced pilot who has represented New Zealand at World Hot Air Balloon Championships. Kate and Michael have been joined in the business by their son Nicholas, who is also a top ranked pilot and daughter Hannah who is a full time Radiographer and manages some of their social media. Ballooning Canterbury operates three balloons incorporating latest technology all from the Cameron balloon factory in Bristol England. The company provides personalised adventure flights for



weddings, engagements, team building and many other events.

Michael says the envelope on ZK-FAT is 100% Hyperlast which has a tighter nylon weave with all fibres completely coated in silicone on both sides (competitive fabrics have only a single coating). This prevents the envelope ever becoming porous. When this happens, the balloon can no longer carry the load it once carried and fuel consumption increases.

The Cameron Z-225 is 225,000 cubic feet in size with 24 gores. As the parachute size increases, the number of gores increase to keep the load on each shroud line constant. It carries the pilot plus 10 people and has a maximum lifting capacity of just over 2000 kg. The balloon's design is in the well recognised signature colours of Ballooning Canterbury.

Hangar and Apartment For Sale at Tauranga Airport



Hangar D10 at NZTG sits on leasehold land of 437 m2, with 7 years to run before the option of a further 20 years. Present ground rental is \$2500 pa, but Council is about to add annual rates of about \$5000 pa. The basic building is the last round roof style to be built at TG, and is 30m long x 13m wide, with vertical walls 2.6m high. It was built about 1995, with our consented 2 bedroom apartment above built in 2012.

The hangar has it's own bathroom and small office downstairs, with a removable bunkhouse and insulated workroom also, and an area set aside as the 'engineers lounge' and garaging for 2 cars. The remaining hangar floor area is large enough for 4 light aircraft. We presently have our Thruxton Jackaroo and 2 other tenant aircraft, both of whom are very keen to stay. There would be options to keep or dispose lots of shelving, cupboards and even tooling and other equipment.

This is an opportunity to acquire a live-in home on the airport, or a rental situation above and below. All further details would be best discussed in person on site. Contact John Pheasant by email to john@pheasant.co.nz

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Pukaki Hangar for sale



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