

KiwiFlyer™

10th Anniversary Issue

Magazine of the New Zealand Aviation Community

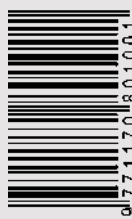
Issue 60 2018 #5



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From the Editor

Welcome to the 10th Anniversary Edition of KiwiFlyer. It seems that an entire decade has passed since Issue number one rolled off the printing presses and into the post boxes of aircraft operators throughout New Zealand. We've reflected about this in a column on the next page. Suffice to say producing each issue is still an enjoyable endeavour and we plan to keep going for quite some time yet.

This issue is another blockbuster effort at 80 pages, thanks to the inclusion of our annual Supply and Maintenance feature which contains numerous profiles and advertisements from all manner of supply and maintenance providers throughout the country.

A highlight of this issue is the story of Graeme Frew and his Full Noise 35 team's return to the fastest motorsport on earth, the Reno Air Races. Engineer Jay McIntyre has also written about the (remarkably smooth) experience from his own point of view.

In our last issue we featured some of Gavin Conroy's photography from his UK trip this year. Photography enthusiasts will be delighted to hear there is more and that we saved the best for last. Gavin flew air-to-air with the Battle of Britain Memorial Flight and alongside the photos has written about the emotional and once-in-a-lifetime experience this was – particularly as the flight had been specially expanded as part of the RAF 100th celebrations this year.

At about the same time, the Royal International Air Tattoo was happening. Gavin and his colleagues organised themselves to spend three days in a Skyvan whilst the majority of the RIAT aircraft formed on them during transits to the air show. That puts an entirely new perspective on watching an air show, evident in the several pages of outstanding photographs we have included for readers to enjoy in this issue. Gavin really needs to write another book so that fair justice can be done to the imagery he captured. You don't get these opportunities unless you're at the top of your game and to be invited to the occasion from the other side of the world is a real credit to Gavin's skill, enthusiasm and determination for what he does so well.

This issue has all the other usual content, plus more, so there's plenty of reading to be had during summer holiday evenings on the ground. Enjoy, fly safe, and here's to another decade of sharing with you, our many contributors' enthusiasm for all things aviation.

Michael Norton
Editor | Publisher
KiwiFlyer Magazine



Features

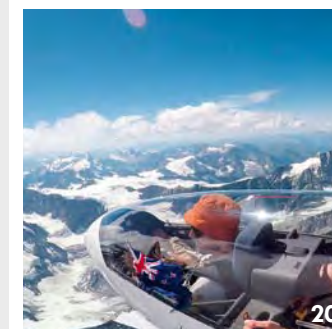
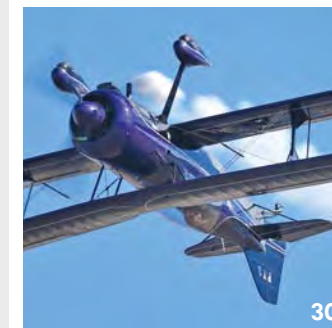
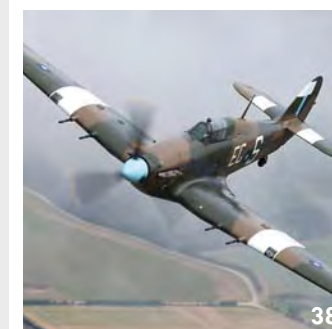
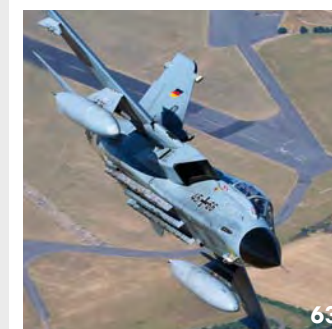
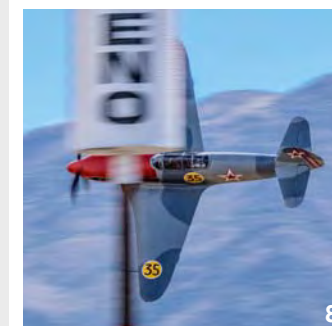
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Jurgis Kairys and his Yuka at Warbirds Over Wanaka. Gavin Conroy photograph.



About Us

KiwiFlyer is for and about the New Zealand Aviation Community.

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

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KiwiFlyer is Ten

This issue of KiwiFlyer is number 60 and at marks our first decade of publication.

Around 300,000 copies have been distributed since Issue number 1 was produced towards the end of 2008 and with the continued support of so many valued advertisers we have maintained the ability to always send the magazine out for free to all aircraft operators and aviation businesses in New Zealand. Issue 1 began as an evening hobby after the idea was pitched to Frank Parker who said “I think that’s a good idea. I’ll buy an advert.” and then to several other companies who also said “Yes we’ll support you”. Many of those foundation supporters are still present in Issue 60 today and deserve a special mention. Thank you to: Tecnam, Avsure, Heliflite, Rotor and Wing Maintenance, Ardmore Flying School, Ardmore Helicopters, Oceania Aviation, Dennis Thompson International, Aviation Safety Supplies, Aeromotive, Central Aero Engineering, Helispecs, Special FX Supplies, Ardmore Sky Station, Avparts, Composites International, Aviation & Performance Parts, Martin Aviation Services, Aircraft Logistics Support, Autoflight, and the DownUnder Pilot Shop.

The first ever KiwiFlyer cover was of the newly arrived Tecnam Eaglet which featured in a flight review across the centre pages. That issue started out with a plan to be 16 pages in length but became 24 by the time it went to print.

Over the years numerous like-minded aviation enthusiasts have contributed articles to KiwiFlyer and many of those persons have become good friends and regular participants in the creation of every issue. Thank you to: Frank Parker, Bill Beard, Ruth Allanson, Penny Belworthy, Chris Gee, Jill McCaw, Gavin Conroy, Mark Woodhouse, Grant Benns, and everyone else who contributes occasionally.

Stuart Clumpas and Irene King were also early supporters whose encouragement helped build the magazine’s presence and the editor’s confidence.

Feedback for the magazine has always been frequent and positive, and much appreciated by everyone who contributes towards it. Thank you also to our readers for many kind words over the years and for supporting our advertisers who make the whole thing possible to produce and distribute in the way we do.

Everyone involved with KiwiFlyer looks forward to continuing to produce the magazine for many years to come.

Bell CSF for Ardmore

Oceania Aviation has added the title of Bell Customer Service Facility to their already extensive aviation service offering. The appointment was celebrated with a function at Ardmore in November attended by Bell executives and many Bell owners and operators. Oceania Aviation’s Commercial Manager MRO, Peter Hatley said that being a network partner with Bell would provide the platform and infrastructure to take their Bell service and customer support to the next level, including enhanced warranty support and locally available spare parts.

Central Aero on the move

Hamilton-based companies Central Aero Engineering and Central Aero Electrical have both moved to larger premises at Hamilton Airport – just down the road to the ‘Super Air’ hangar. All contact details remain the same except the courier address changes to Ingram Road. See article on page 50 for more information.

Fabric Covering Course

Australian company Western Airmotive are offering a fabric covering course in conjunction with Poly-Fiber USA. Two full days of training will be presented by experts from the Poly-Fiber Factory on 16-17 February at the HARS Museum just outside Wollongong, 90km south of Sydney. Total cost including lunch and all materials is A\$250. See details on page 58 of this issue.

Tie-Upp Aviation Launches in NZ

Indian based company Tie-Upp has launched a new aviation training initiative in New Zealand, based out of Rangiora Airfield. CEO Rodney Dodd says their goal is to make flying as affordable and accessible as possible. Operations have commenced with a new Pipistrel Alpha LSA, ZK-TGS, to match Tie-Upp’s slogan of Train-Gain-Shine.

Rodney says TGS is similar to the new Pipistrels purchased by the Indian Air Force and the Indian Navy, providing a very cost effective and efficient training platform. The company’s ‘fly to dream’ initiative is offering flying at \$95 per hr inc. GST and fuel.

Tie-Upp was established in 2014 in Madurai, India, becoming involved in sports, education and travel. Now turning their attention to aviation, Rodney says they looked to New Zealand for high aviation standards and a rich aviation

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culture – and he issues an invitation: “Enthusiastic instructors wanting to make a difference can contact us to be part of this global initiative.” Email Rodney at rodneyadodd@tie-upp.com or visit tieuppaviation.org

40 years for Nelson Aviation College

Former owners, instructors and students of the South Island's first flying school recently gathered at Nelson Aviation College's base at Motueka aerodrome to celebrate the college's 40th Anniversary.



Nelson Aviation College's first class in 1978. Walter Wagtendonk pictured at right.

Among the guests at an anniversary dinner was Jan Wagtendonk, whose father Walter founded NAC, initially at Nelson airport and then fulltime at Motueka in 1978.

Walter was the first foreigner accepted into the Royal NZ Air force, became a much respected and revered figure in aviation for his work in lifting the standard of pilot training and safety in the industry. Jan said her father would have been very proud of how NAC had started as a small family business and gone “from strength to strength over the years” to become one of Air New Zealand's preferred training providers.

She and Giles Witney (who co-owns the college now with wife Katrina) announced an annual Wagtendonk memorial award for the most diligent student, while Mr Witney gifted her a painting by her mother Ann which has hung in the NAC office for many years and been used on the cover of a pilot textbook distributed all over the world.

Previous owners Andy Smith and Penny Mackay entertained the audience with amusing anecdotes and heart-in-mouth moments teaching students to fly over the years, while former students and now Air Nelson senior managers Steve Scott and Mason Lukey spoke about the high quality of training and attention to core fundamentals they received from “Uncle Wal” and others.

Giles said the last year had been one of major milestones for the college which showed that “we continue to punch above our weight”. To support its pilot pathway project and airline integration course with Air NZ, NAC has recently purchased a new Boeing 737-800 simulator to enable commercial pilot training to be carried out at Nelson Airport. It has also bought three new Cessna 172s with state-of-the-art instrument systems, taking its fleet to eighteen.

Giles says NAC – which currently has 65 students and 23 staff - has previously been approached by a number of organisations wanting them to double the number of students in training but this would mean having to convert student accommodation into classrooms. As one of the few flying schools in the country with students living on site, they didn't want to do this, rather seeking to

remain student-centred and focused on quality. “We want to know our people and look after them really well in the hope that they get picked up by Air New Zealand earlier,” says Giles.

Oceania Aviation Management

The ‘old team’ of Jonathan Bowen, Josh Camp and Gordon Luke have stepped back into management roles at Oceania Aviation whilst the company recruits a new CEO to the vacancy left by Don McCracken's recent resignation. After six years as CEO (including of Salus Aviation following a merger in 2017), Don says the time was right to move on and pursue other interests.

Massey cohort succeed with Qantas Future Pilot Programme

On November 12 Ashok Poduval, CEO School of Aviation at Massey University was delighted to receive notification from Captain Ian Griggs, Senior Base Pilot Q300 (NZ), Jetstar Airways, attesting to the success of the first Massey School of Aviation cohort of Qantas Future Pilot Programme (QFPP) candidates.

The first four students of Massey School of Aviation selected by Jetstar under the Qantas Future Pilot Program attended the Qantas training centre in Sydney to complete the third and final stage of the Airline Transition Course (ATC). Selected students complete the Airline Transition course in the final semester of the Bachelor of Aviation ATP degree.

The ATC has three stages of training. The first stage is delivered in the new generation Diamond DA42 flight simulator at the School of Aviation in Palmerston North. The second stage is theoretical study related to engineering and performance of the Bombardier Dash 8 aircraft, which is also delivered at Palmerston North jointly by Qantas instructors and the School's lecturers.

The third stage consists of five sessions of four hours each in a fixed base Bombardier Dash 8 flight simulator. This is delivered at the Qantas centre in Sydney by a QantasLink Dash 8 instructor. The students needed to demonstrate proficiency in QantasLink Standard Operating Procedures and crew coordination.

All four worked extremely hard to successfully complete their Qantas Airline Transition Course and this dedication paid off with all four candidates having been offered a First Officer position with Jetstar Regional commencing on 27 November 2018.

In addition Captain Griggs passed on that the Chief Pilot and Manager of Standards and Development, Qantas complimented the candidates on their professionalism and motivation adding that they are a credit to the University.



Massey students heading straight into Jetstar Regional First Officer positions. L-R: Cameron Naylor, Chase McDonald, Vanessa Brill-Holland and Darcy Clure

Congratulations from KiwiFlyer to Cameron Naylor, Chase McDonald, Vanessa Brill-Holland and Darcy Clure on an outstanding start to their flying careers.

NZ Warbirds Association Action

With end of year approaching, regular NZ Warbirds contributor Frank Parker takes the opportunity for a catch-up on another busy year for the Association. Frank writes:

After a couple of years of rapid expansion with the takeover of two hangars we have spent our efforts on some consolidation. Previously I wrote about the improvements to our No.1 Hangar courtesy of Top Shelf Productions. Parallel to this has been continued development of displays in No. 2 Hangar's Mezzanine area which is now open to visitors and receiving positive comment. The area has an extensive model display, a record of NZ Squadrons active in Europe in WWII and a new section on the Pacific WWII action. Under development is an area to highlight one of WWII's unsung heroes, the AT6 (USAAC), or SNJ (US NAVY) or Harvard (British Commonwealth) trainer aircraft, the ‘Pilot Maker’, where we aim to have a display of components and a historical record of this remarkable aircraft.

Aptly this area has been named after the Association's longstanding Aerobatic Team, the ‘Roaring 40's Gallery’ and was officially opened with a function in September.

Along with this has been a new ‘branding’ exercise for our Ardmore based facility. NZWA Ardmore Visitor Centre was always going to be a marketing ‘challenge’. We are now ‘NZ Warbirds at Ardmore’, a brand which we feel encompasses our heritage as NZ Warbirds Association and our location ‘Ardmore’ which itself is a Historical Airfield, the last ‘home’ in New Zealand for a number of WWII Airmen.

NZ Warbirds at Ardmore has over 20 aircraft on display from the earliest military aircraft (BE.2 and Bristol Scout) through to the early Jet age (F86 Sabre and A4 Skyhawk). Outside of Military Museums we believe we have one the best offerings of aircraft in Australasia, definitely New Zealand and most of the aircraft on display are operational.

We have also been busy with some ‘branding’ of the new hangars, aptly Hangar 1, with an emphasis of WWI and classic aircraft, and Hangar 2 housing WW2 and later aircraft. This is all in line with continued development of the overall Visitors Centre experience.

On the flying side we are gearing up for the coming summer season. Of note is a new line up for the ‘Flagship’ Roaring 40's Team. After a number of years at the ‘front’ I have taken ‘leave’, the new Team is led by CFI Dave Brown, new member Dean Beverly with Liz Needham, John Kelly and Rob Silich moving to the No.5/Solo slot vacated by ‘Brownie’.

Unfortunately the weather foiled our flypast engagement for the 11 November Armistice Day Commemorations at the Auckland Domain. As we know there is only one thing you do about the weather – wait!

On 18 November we held a successful Open Day at Ardmore with about 5500 plus people getting a great day out. This was a pleasing result after the Open Day planned for June was cancelled when the weather Gods scorned us with a tempest.

This weekend (1 Dec) marks another milestone for the



Images from NZ Warbirds' November Open Day. No.2 Hangar in the background.



The latest Avspects de Havilland Mosquito is nearing completion.



Fast and loud vs. slow and graceful. Strikemaster taxis past WWI replicas.

Association, our 40 th Birthday celebrations. This will be a mix, mingle and reminisce in the afternoon followed by a supper and dance – well at least a shuffle – in the evening.

Looking ahead 2019 has some early appointments, the first being a display day ‘Rere Rawhiti Flying out East’ sponsored by the Gisborne Aviation Preservation Society on 19 January. This is a new event being organised by this group to raise funds and put them on the ‘map’. NZ Warbirds will have a small contingent supporting this new initiative.

February is looking busy with Napier Art Deco Celebrations on 15/16 and Masterton's ‘Wings over Wairarapa’ Airshow the following weekend. I always enjoy the Art Deco Weekend, a slightly relaxing time and Masterton is equally an enjoyable event

The big one next year is Yealands Classic Fighters at Omaka over Easter. Personally I am looking forward to a re-acquaintance with an old German ‘friend’, some unfinished business – if you like!

Overall Omaka is also a fun weekend, great location, great people and agreeable après-show local aperitifs.

I hope the ‘Boss’ understands my summer schedule!

Frankly@xtra.co.nz



Seven Days in September

Graeme Frew and the Full Noise Team return to Reno

In the circuit, fast and low.

“the aeroplane seemed to be loving being on the course as much as I was - and that was a lot”

Will Campbell image

At the same time our last issue of KiwiFlyer went to print, Graeme Frew had the throttle bent forward on his Yak 3, overhead the Nevada desert, competing in the 55th annual Reno Air Races. This marked Graeme and his team's second appearance at the 'World's Fastest Motorsport' event, their debut in 2017 resulting in a hugely credible rise through the qualifying ranks and an invitation to race in the Unlimited Gold class, i.e. as good as it gets. Last year the team faced and overcame some immense challenges including a last minute all-night engine change. No longer of rookie status and with all that experience behind them, what might the results be this year? Graeme Frew tells the tale of another great week of fast-paced aviation excitement:

The Journey Back

On the Tuesday of race week at 15:00 we had a wee ceremony in our pit. It was 12 months to the day that I'd asked the team if they were up for the challenge of completing a three day engine change in less than 24 hours. History tells that they never hesitated and we went from a rainy engine change and no qualifying time to a Gold final. Our experience in 2018 couldn't have been more different.

The fact that Full Noise behaved faultlessly right out of the box is testament to the careful planning and professionalism of the core team for 2018. This had started early in the New Year prior to the container even arriving back from the 2017 campaign. Once again Jay McIntyre signed on as a principle sponsor but this time around Paula Theodore of V Events also agreed to support the

madness that is shipping an aeroplane halfway around the world to race in the World's Fastest Motorsport.

We decided to do things differently in 2018 and have our race plane delivered directly to the pit for open air reassembly. This came from a desire to halve the six month time the aeroplane had been away from NZ during our first Reno campaign. It was made possible by the sponsorship of a container by NZ Express and our thanks go to BJ of SDL Transport for organising this and the trucking to Nelson.

Pull down and packing by JEM Aviation was completed in the last week of July. We farewelled Full Noise confident we would see her in five weeks time completely untroubled by her sea voyage.

The final piece in the delivery puzzle was finding an 'NZ style'



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Proud Kiwis on parade.

sidelifter type truck to deliver the box onto the ground at Reno - as 99% of containers in the United States are left on their trailers, backed in to loading bays and unloaded 4 feet off the ground. The sidelifter we eventually found caused quite a stir and we very soon became known as the #yaknabox, a handle coined by a friend of Full Noise that stuck with us. Apparently no-one had ever reassembled their Unlimited Racer in the pits in the history of the Reno Air Races.

We pulled Full Noise out of her #yakshack into the Nevada sunshine on the Thursday prior to race week. Despite some early stage fright, under the guidance of crew chief Jay we had those six pesky wing/fuselage mount bolts in place by days end. A special mention must go to Alby Reddick of Reno based Aviation Classics who turned up with the biggest forklift we'd ever seen and then proceeded to operate it with the precision of a heart surgeon. Al Marshall contributed his skills as Theatre Nurse on the tail forklift.

The team had begun to gather by the weekend but sadly helmet sponsor Ryan Southam had arrived sans baggage containing the very important oxygen mask required for Gold Unlimited racing. A quick call to fellow Yak racer Dusty Dowd in Kansas, who then made a fifty mile drive to the nearest post office and we had a borrowed mask via overnight courier. It is very competitive out on the race course but this fraternity will do everything they can to help out when needed.

Once assembled the mighty Allison started first go and by Sunday evening we were celebrating a successful test flight with only minor trim issues to sort out. We were right on track for practice and for the first time actually qualifying in the first few of those magic seven days in September that is Reno Air Racing.

Practice and Qualifying

The Monday morning brief centred mainly on the aspects of practice and qualifying. With no start jet it was first in best dressed on the course. The rules state that we are allowed eight on the course for practice but only four when someone calls for the clock, this to allow racers a fair crack at posting a time without having to worry about lap traffic. I'm not sure how we were to figure out who should head back up to the queue when someone wanted a qualifying time. I was only intending some practice laps so I wasn't particularly worried should I need to bug out to make way.

It was rather humbling to be singled out during the brief for special mention. I don't think Unlimited class president Sherman Smoot could believe we'd made the pilgrimage back. In his own words "Graeme and his team really do have the racing bug". No arguments there.

It was an absolute thrill to once again head down the short chute and get back on the course after all the planning, dreaming, scheming and sheer hard work by the team. I was amazed how quickly the next pylon came up after crossing the ridge onto pylon 4 and completely blew by it but it only seemed to take a half dozen laps to settle into the rhythm and line that best suits a fighter renowned for its low level performance and turning ability.

I'd briefed the team to time the last few laps as all being well they would be at full noise but by this time the traffic had cleared, the aeroplane seemed to be loving being on the course as much as I was - and that was a lot - and the Allison was positively humming. Consequently everything went in the front left corner and after a lap to accelerate I called for the clock. The result was a very satisfying 362 mph qualifying us sixth of fifteen racers.



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Let the Games Begin

Much had been written lamenting the lack of 'super' unlimited racers in the lead up to the 55th National Championship Air Races but the reality is their absence left the podium open to three or four contenders capable of 400+ mph. This of course meant tactics would play their part with some qualifying times seemingly a little light considering what was rumoured to be under the hood. We were there to race but were also mindful that you have to be there on Sunday to have a chance. Thus the plan for the initial racing was to run full noise for a few laps and then come back on the power so as to maintain our position starting in the 'A' heat races.

That lasted until the first day. After a decent enough start I made the mistake of following Sea Fury 924 wide into the valley of speed. While transiting back toward my normal tighter line I ended up getting a windscreen full of Mustang so after pulling up to avoid him I executed an escape manoeuvre off the course. This resulted in flying behind the crowd line at 1500 ft while watching two Mustangs passing the home pylon. I wasn't there to be a spectator so left the power up and came back on the course on pylon 2 and had policed up and passed the two back markers within a lap. We had moved down one slot but were still in the A heats and tracking the Gold final on Sunday.

And so it remained. I started and finished 7th for the rest of the heats. Physics played their part as despite being right amongst it coming into the start chute, as soon as the 2 tonne heavier Sea Furies and Mustangs pointed downhill they frustratingly just went away from the Yak. All was not in vain as there was plenty of learning to be had and by the end of play on Saturday I was happy I was getting the best possible start and flying an optimal line. I was definitely reeling in the shiny P-51 Goldfinger and the Centaurus powered Sea Fury 924 when on the course but kept running out of laps to make up the loss from the start and effect a pass.

Behind the scenes

One thing Crew Chief Jay McIntyre and the team had been doing through the week was making sure the airframe was as clean as possible. We were given some close up photos of Full Noise that showed some issues around the gear doors and flaps not being flush but it was nothing our team couldn't overcome with multiple gear retractions and some clever field repairs. A much larger spray bar water tank, kindly supplied by local Marlborough business INDAC, and a higher capacity pump meant that the coolant and oil temperatures stayed nicely in limits despite operating at take-

off power for the whole race. We were a happy team.

It was amazing to us all how quickly a race day went by. You'd think that briefing at 8 am and flying at 3 pm would give ample time to relax and perhaps cruise the many and various aviation sights and sounds of Reno. We found that connecting with our ever growing fan base at the race pit was a full time job. We loved their enthusiasm for our Kiwi story and made sure they left secure in the knowledge that NZ had much to offer as a holiday destination. We also made them very aware that an added bonus of visiting during any given Easter was that you can also see a world-class air show.

Paula was also kept busy satisfying the ever increasing demands of media liaison and updating the many following our efforts on social media. This did however come with an unexpected bonus when her number was drawn from the media pack to watch a race from Pylon 5. We were told there have been more people climb Mt Everest than have been out to the pylons.

We were particularly pleased to have some interest from mainstream TV media back home when Michael Holland and cameraman Sam of Seven Sharp spent two days with us. (See link at end of article). Thanks to the good relationship we had built with Reno Air Races, Paula was able to arrange special access for our intrepid TV crew to film from Pylon 4, an experience they won't be forgetting anytime soon. Michael certainly had no shortage of material for his article from the colourful people that make up and support Air Racing. We also featured on two local TV channels and radio thanks to the intrigue around our Yak'nabox and the interest in a privateer team that had travelled all the way from New Zealand to race.

The Big Dance

Sunday dawned bright and clear, a perfect day for racing. We couldn't have been happier with the way Full Noise had performed through the week and hadn't even changed as much as a spark plug! The aeroplane positively gleamed from the constant cleaning and pride of her pit crew who were once again there on their own dime to experience the thrill of Unlimited Air Racing. It was a privilege to be involved with such people.

Once again we made the obligatory 'duck walk' to centre field, were introduced to the sponsors and crowds and mounted up to start and do battle on the pylons. It was familiar territory to start, taxi, run up and prepare for departure but with that added buzz of 'the big dance'.

In contrast to 2017 I couldn't be happier with my race. I knew if I could nail the start I might have a show against Goldfinger and 924 and my start was near perfect. I just couldn't get ahead of the



Ready at Reno.

Will Campbell image

inside markers by the start pylon before which lane changing isn't permitted. I had the throttle almost bent forward and though I could see 5 and 6 just in front of me there just wasn't enough in my stock Allison engine to get by them. We finished in starting order but my trophy for 7th in the Gold Unlimited final reads a satisfying 352 mph. Congratulations go to pre-race favourite Dreadnought whose pilot Joel Swager seemingly strolled to the win at 417 mph and Brent Hisey who whipped Mustang Miss America to second. We were stoked to see our pit mates Sawbones make it to the podium for third. I know I couldn't have gone faster on the day and 5th and 6th place were tantalisingly only 2 & 3 mph faster.

The Return Home

Not one to rest on his laurels, and despite helping celebrate another successful campaign on Sunday night, our crew chief proposed starting the pull down of Full Noise the morning following racing. The Yak was #backnabox by Wednesday afternoon thanks to the Herculean efforts of Yak Tetris King Jay and the team. We are expecting the Yak back at the end of October and after reassembling her she will be available for

that once in a lifetime joyride experience. Check out our Facebook page Fighter Flights for an opportunity to go for a flight in New Zealand's only two time Gold Unlimited Racer. You may very well be helping us finance another tilt at the crown...

Graeme Frew



Don't miss viewing Full Noise in action:
www.tvnz.co.nz/shows/seven-sharp/clips/blenheim-pilot-skims-across-the-desert-at-bone-rattling-speed-at-reno-air-races

**Better still,
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www.facebook.com/fullnoise35



Starting the unload procedure at Reno.

Will Campbell image



Team Full Noise.

Reuben Simpson image

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Reno 2018 - The Engineer's Perspective

As with the 2017 campaign, Graeme's Reno adventure could not have taken place without the outstanding support of Engineer Jay McIntyre and his team at JEM Aviation. Here's Jay's side of the story:

When asked to write something about the 2018 crusade I initially thought there was not much to say as it was a pretty non-eventful campaign this year. Further prompting forced me to think about it a bit more objectively - I offer the following observations:

When Graeme confirmed he was going back this year I did wonder why! I mean, how much better could we really do? We were not going to have our tricked-out race engine and prop, and all the super-secret speed mods we had wanted to do were way beyond anyone's budget (not only money, but more importantly time!).

The time thing was a big killer. If we were a fully funded race team with nothing else to do but finesse the airframe and engine, then who knows? Reality strikes and so and so's Cherokee needed an annual, an AD requires the cutting of more holes in a Tiger Moths strikes and, damn, a Focke Wulf 190 needs rebuilding for the next airshow. We had hoped to have the race engine from last year repaired and sent over here for installation and a relaxed run-in and work-up, but this was never going to be a goer as it would really had to have been here by February for that to be practical.

As it was, due to shipping and customs issues, our container

never arrived back at Omaka until late January 2018. Reassembly occurred straight away but she needed an annual, a prop calendar and we had elected to replace the original Russian electrical circuit breakers with American units as over the years they had been repaired with fuse wire ala a 1970s house (probably appropriate!).

Unfortunately, when all this was completed we found that the generator did not work. Odd... it was working okay before dismantling the aircraft in the USA... Had we messed up on the installation of the CBs? Seemed unlikely, and after a bit of troubleshooting we found that the main power feed into the Russian box of tricks that controls the electrics had shorted out on another part of the case. Turns out after 5 years of trouble free flying it must have somehow vibrated significantly around against the casing and shorted out the system. Bloody ships...

Sweet... fix that and we'll be away... Not to be as every time we thought we had found the problem the generator still would not work. Flash the generator, send the regulator and generator away for testing, replace this component, replace that component. In the end, screw the expense - replace the entire system with a Jasco Alternator. Yaay... job done. Damn, it's May and we need to think about pulling her apart to get on the water again. (Luckily Graeme had been able to satisfy his flying needs sans generator in the preceding months!).

Just prior to dismantling in July we secured a 100 litre water

contributed by Jay McIntyre

tank from Indac Industries in Blenheim and installed this in place of the 35 litre tank we had last year - that should sort the temps out! Test flying resulted in a couple of radio calls to say that Graeme was losing fluid, so good and so prolonged was the flow through the radiator. Most importantly, the capacity was longer than the duration of a race.

So, immediately after we pulled the Maude P-40 apart for return to Canada and mated the FW190 wing and fuselage we pulled the Yak apart (over this already!) and had her ready for shipping at the end of July. All quicker than last year as we knew what needed to be done although there were a couple of mods to the fuselage stand needed given we had the engine installed this year.

Fast forward to the beginning of September and a beast unknown in the USA [swinglift truck] delivers the container to Reno and proceeds to swing the container off the truck and into the pits. Cue gobsmacked Americans everywhere!

Engineering support in the form of Al Marshall, Phil Southerden and Brad Engbrecht arrived over the following days and with Graeme and Paula's help we had the container unloaded and the fuselage mated to the wing on Day One, the majority of the aircraft reassembled on Day Two and ready to fly on Day Three. Following FAA and RARA inspections she was ready to go. It all went relatively smoothly although mating the fuselage to the wing was a bit of a fight. I had invested in a Sweeny prop tool and putting this to use was like engineer porn!

Graeme promptly went out and put the jandal down and posted a qualifying time 20 mph better than his best speed last year. From there, other than playing with the flaps to stop them sucking out at high speed (didn't make a difference!) we didn't touch a thing other than putting a little bit of oil in (we put so little oil in that at one stage we were actually concerned!). We considered pulling the oil filter from time to time, but really, what was the point?

The day after the Gold Final, the airfield was virtually deserted, and we began getting her ready to go home. A good effort on the first day saw us ready to remove the fuselage from the wing and by the end of day two we had the fuselage and wing in the container. Wednesday was spent securing everything in the container and on Thursday I was taking a Mustang through the scenic High Sierras on my way back to San Francisco - two whole days earlier than



Unloading the wing in the Reno pits.



Mating the Yak's fuselage and wing.

planned - Wahoo!

So, was it worth it? Hell yes! Graeme raced like a machine and did the best he possibly could with he had. We had a trouble-free run and a 'busman's holiday'.

Perhaps the thing that made everything so worth it was the American public's reaction to it all. I thought they would be thinking 'oh yeah, those Kiwi's are back... where's a P-51?' Instead they were raving even more than last year over the fact that Graeme had shipped this thing around the world and assembled it in the pits. The whole Yak-in-a-box thing was PR gold, even though we had done the same thing last year but just out of sight.

So when are we going back Graeme?

Jay McIntyre



New Reading

Shot Over into the Shotover - Lessons from a NZ air accident

By Richard Waugh

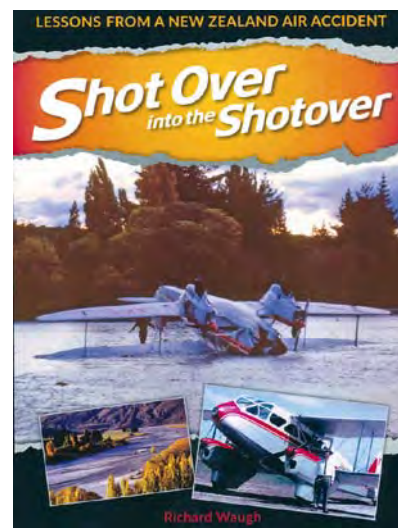
Published by Craigs Design and Print, \$39.90.
Available from www.craigsdp.co.nz

This book tells an absorbing story of Brain Waugh's de Havilland DH89 Dominie engine failure that landed him in Queenstown's Shotover River. The subsequent intrigue involved engine reliability issues, an inadequate accident investigation, and how Waugh, a licensed aircraft engineer, while recovering from his injuries, happened by chance to inspect one of the engines being dismantled for overhaul. What he discovered led him to relentlessly advocate for a proper investigation.

The book is richly illustrated by many rare photographs and filled with research from primary records. Eight notable NZ aviation persons all provide forwards or commentary to the text. A useful index is included as are numerous interesting sidebars and expanded captions which make the book very easy to pick up and browse.

Shot Over into the Shotover also provides a nicely informed insight to de Havilland DH89 Rapide/Dominie operations in New Zealand. The type is in fact the longest continuously flown aircraft type in New Zealand with at least one example airworthy every year since 1934.

Richard Waugh is a prominent aviation historian and writer in New Zealand and Craigs Design and Print have many of his books available online. Well worth a look when sourcing gifts in time for Christmas.



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Massey's School of Aviation Internship Courses Open Doors for Graduates

One of the benefits of undertaking a Bachelor of Aviation Management degree course with Massey University is the opportunity provided by papers involving internships. These provide students with real-world aviation experience during their course. The Aviation School facilitates the internships which are often credited with providing students the extra advantage needed to secure their first job after graduation. Massey's Manager Business Development and International Programmes, Anke Smith explains:

Massey University's Bachelor of Aviation Management degree's internship courses (papers) add great value to students' employment opportunities. Aviation Management Practicum courses, commonly called 'internships' are credit-bearing courses that enable students to add real-world experience in an aviation environment during their degree.

BAvMan internship placements to date have included NZ's major international airport companies, plus Queenstown Airport. In addition students have been placed with Air New Zealand, Airways NZ, Plane Biz, Jet Connect, Menzies Aviation and Fieldair Engineering. Internships can also be undertaken offshore with prior approval.

During the 2018/19 summer semester Massey will extend its suite of internship host companies to include new providers; an Auckland-based NZ airline cargo company, and MPI (Border Security), plus two major international aviation organisations. Internship students will be placed with the new providers as well as with existing host organisations.

Opportunities abound for BAvMan students who are focused and eager to seize the chance to work on an internship project with an aviation organisation during their degrees.

Outstanding performance in an internship placement can, and does, lead to career opportunities. Employers recognise that hosting Massey's aviation management student interns is mutually beneficial to both parties.

Air Asia, Malaysia - Anand Krishna

Second year BAvMan student Anand Krishna completed an exciting internship placement over the 2017-2018 summer semester period with Air Asia, Malaysia.

He says "The knowledge I acquired at Massey allowed me to perform exceptionally well in an industry environment and both organisations expressed their interest in having me embark on future roles with them."

During the internship period with Air Asia, Anand was able to choose and develop his own area of interest – this being On Time Performance (OTP). Anand made a real contribution to Air Asia's OTP where - to quote their Group Head Network Management Centre, Andy Brooker-Tormey - he "joined the data with real

operation observation and produced sensible, validated strategies to improve the results or at least understand additional factors previously masked or unclear".

Anand says his three months with AirAsia "were truly wonderful and I am truly grateful for the opportunity. I definitely learned a lot and hopefully I was able to make some contributions to the airline as well."

Air Asia has now offered Anand the opportunity to return in the 2018/19 summer vacation period to complete a special topic project for them.

Auckland International Airport - Amber Brierly

Amber spent her BAvMan internship experience with Auckland International Airport working airside operations while doing a research paper on performance measurement.



This then led to her to gaining a placement as a Massey University overseas exchange student to Embry Riddle Aeronautical University (ERAU), Daytona, USA in the last semester of her degree. Upon completing her Massey University studies - and based on the work she completed during her internship with Auckland International Airport - Amber secured a nine month research-based internship with ERAU within the School of Air Traffic Management.

Post-graduation, Amber returned to the USA on a one year graduate visa where she secured a role as Customer Services representative with Signature Flight Support, Scottsdale Arizona, leading to a full time role with Signature in Orlando Fl. as a Franchising and Licensing Development consultant.

Aerocare Auckland - Sam Cubeles-Conway

Sam spent his internship period with Aerocare Flight Support (Auckland) where he was given the opportunity to examine the operational area of aviation which was of special interest.

The internship then led to an offer of full time employment as an Operations Agent for Aerocare, focussing on Qatar and Hawaiian Airlines. Sam completed his degree part-time via distance learning, graduating in May 2018.

Sam reflects on why he loves his role with Aerocare so much; "In my job I have the ability to work with multiple different national and international companies on a daily basis. Working with so many different companies and people has allowed me to gain contacts and relationships all over the world, such as the Middle East with Qatar Airways or in Australia with Jetstar and Fiji Airways. Having every day be different is definitely one of the best parts of my job. I thoroughly enjoy the operational and cargo fields within aviation and love working in a dynamic hands-on environment that offers different challenges every day."

cont'd over...

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Sam continues to aspire to gaining a management position within an airline, hopefully in his preferred area of cargo and operations, with emphasis on route optimisation.

Air Freight NZ / Fieldair Holdings Ltd - Woody Andrew

Woody completed his aviation management practicum with Air Freight NZ and Fieldair Holdings. Woody describes his internship as "assisting in the creation of a new cargo airline using jet aircraft". In addition it opened doors to management work opportunities for Woody during the remainder of his degree.

Woody was also able to take up the opportunity to spend his final semester as a Massey exchange student at ERAU, Daytona. He says he had the time of his life and came back with a renewed appreciation of the way in which New Zealanders are regarded internationally; "Kiwis are so sought after and respected for our can-do attitude. You don't realise how unique we are until you are immersed in other cultures."

Woody now works as an airport planning consultant for AirBiz.

Christchurch International Airport Ltd - Joeli Nagera



Joeli completed his aviation practicum paper with CIAL in 2016 where he worked as an Apron Safety Intern while finishing his BavMan degree. In May 2017 Joeli was offered a role at Wellington International Airport Ltd as Infrastructure Project and Safety Coordinator which he attributes directly to the safety research he completed during his aviation management practicum course while at CIAL.

For more information

The demand for School of Aviation management internship students continues to grow. The school is always happy to receive enquiries from other aviation organisations or industries who may be interested in hosting our students. Please email Anke Smith: aviation@massey.ac.nz

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Aviation Insurance Policies

Warranties and Conditions

The term 'warranty' as used in an aircraft insurance policy differs from the use of the term in relation to other types of contracts. Bill Beard from Avsure explains:

A warranty is a term in a policy which requires strict compliance by the Insured.

Predominantly the term is used in relation to approved pilots under the policy. The Pilot Warranty may stipulate a schedule of named pilots or a guideline as to minimum qualification or levels of experience under an Open Pilot Warranty.

Important aspects to bear in mind are:

- Be acutely aware of your Pilot Warranty at all times because in the case of a claim, a breach of any warranty entitles the Insurers to avoid the policy regardless of the fact that the warranty may not be material to the risk and also regardless of whether the loss is in fact caused by the breach of warranty.

- Compliance with all air navigation and airworthiness orders and ensuring that the aircraft is airworthy at the commencement of each flight. Of absolute importance is to ensure your ARA and BFR are current and ensure that all employees and users of your aircraft comply with such requirements.

The following exclusions apply to all aircraft policies:

- Whilst an aircraft is being used for any illegal purpose or for any purpose or use other than that included in the policy.
- Whilst the aircraft and/or components are being transported by any means of conveyance except as a result of an accident.
- Whilst the aircraft is being piloted by any person other than stated in the schedule (the exception is that the aircraft may be operated on the ground by any person competent for that purpose).

- Whilst the total number of passengers being carried in the aircraft exceeds the declared maximum number of passenger seats stated in the schedule.
- Whilst the aircraft is landing on or taking off or attempting to do so from a place that does not comply with the recommended take-off/landing distances specified in the pilots handbook.

There are other "do's and don'ts" but generally these are the important ones and if you ensure compliance with the above bullet points then the chances of a claim being denied would be very remote.

For more information

To discuss this topic or any other aviation insurance questions, or to seek quotations, contact Arden Jennings or Bill Beard at Avsure on 0800 322 206.

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Hard to top that for a selfie. Alex McCaw in the Alps.

Gliding Around Europe

For at least 50 issues, Jill McCaw has written an article on gliding for KiwiFlyer readers. On this occasion, she has passed the job to son Alex who is currently back at home in NZ with not enough to do (that's according to Jill) ahead of starting new employment in 2019. Alex is certainly qualified enough to make this contribution:

You will be used to reading my mother's words in this column but this time I have been handed the pen. I have been lucky enough to have been on my OE for two and a half years, living in England and traveling around Europe whenever I got the chance. Being a glider pilot, I was always going to try my hand gliding whenever and wherever possible. In fact,

my OE started because I had decided I wanted to fly at the 2017 Junior World Gliding Championships in Lithuania.

So, as a young naive glider pilot, in July 2016 I packed my logbook and gliding kit and headed for Europe. Even before leaving for Europe the extended NZ gliding community had been extremely friendly and helpful and I had arranged

to borrow an expat's car while a friendly POM lent me his glider. Just like that I was driving across Europe with a glider in tow, heading to Lithuania for a practise run for the world champs the following year. After an epic drive across Europe we arrived at the airfield in Lithuania and I found it oddly familiar. Even with the language barrier everyone was happy and helpful and talked with the same sort of enthusiastic optimism that I had often experienced at gliding clubs in New Zealand. We were given a very brief briefing that consisted of, "It is probably best to avoid the Russian airspace and really advisable to avoid the airspace around Belarus." It was also mentioned that the nearby NATO airfield might not be a friendly place to wander into either. Needless to say, I spent most of my time flying in Lithuania with my carefully marked map close at hand. Throughout our time in Lithuania I found it like being at any gliding club in New Zealand; people were friendly and would sit around having a few drinks after flying.

My first time experiencing the kindness of the worldwide gliding community was when I ended up in a bit of bother driving back to the UK from Lithuania. In the middle of Poland I heard a loud bang and saw the glider trailer weaving around behind me on the motorway. The trailer draw bar had snapped... A quick call to one of my Polish friends I had just met in Lithuania and I was told to hang tight and I would be picked up. Next thing a tow truck turns up with a bunch of young Polish glider pilots all wanting to help. We somehow managed to get the glider trailer to a nearby airfield where they insisted I stay and enjoy some gliding while they organised a fix for the trailer. It was a big adventure, and everything worked out.

Back in the UK, wanting to keep up the gliding, I got involved with the Junior Gliding scene and was quickly overcome with the enthusiasm of everybody. Within a couple of weeks I was heading up to Scotland for what they called a Winter Series event. It basically involved 50 or so junior pilots getting together for a weekend of fun flying and activities. I was lucky enough to be offered a flight with a 'local' and we managed to have a good look around the Highlands using wave lift. Again, I was surprised by how friendly everybody was and how like home it felt.

This was a feeling that continued throughout the time I was away. I was lucky enough to fly in Spain, France, Poland and Italy and that feeling of being at home was universal. It seems that a

gliding club feels the same in any country. Although I have to say the bakery on site in France was a nice change and a feature I think all gliding clubs should take up. A croissant before flying is a pleasant treat.

My experience gliding overseas, meeting amazing people from all over the world who all share the same passion for flying has only sparked my passion for gliding more. It really feels like a big family; even on the other side of the world.

Even though I have had an incredible trip, gliding in places I have never imagined, including avoiding Russian and NATO airspace, competing in a World

Gliding Championships in Lithuania and flying in the European Alps, the best experience is coming home and getting to fly around the familiar terrain of the beautiful Southern Alps of New Zealand. I'm really enjoying flying in the glider owned by myself and my father, enjoying the clear blue skies and excellent visibility we take for granted here. I am looking forward to hosting some of my new overseas friends and getting the chance to return the favour and show them how good we've got it here in New Zealand.

Alex McCaw 

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Map reading overhead Scotland.



A landout at the Junior World Champs in Lithuania.

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Tecnam's Extensive Range

Readers of the recent KiwiFlyer editions will be aware that Ruth Allanson has become a Tecnam Agent in New Zealand following the company restructuring its representation across Australasia. Ruth introduces the current Tecnam range as follows:

What I've always found appealing about Tecnam is the family history about how the company was formed and operated. Tecnam was founded by the Pascale brothers Luigi and Giovanni, the 'P' before each model number representing these veteran designers (and the model numbers being the initial year of design). The brothers were responsible for the design and construction of the twin-engine Partenavia P.68. Their original intent with Tecnam was to make aircraft parts for other manufacturers such as Boeing and ATR which they still do, however their interest in light aviation had them producing their very first light aircraft soon after forming their company.

Many models have been produced since then, each with Pascale innovation of design and although both brothers have now passed, Paolo, son of Luigi Pascale, is Chief Executive Officer and his son Giovanni is Chief Operations Officer.

They now have over 6500 planes flying worldwide and employ 250 people to produce several aircraft a day in their various factories worldwide. They have two factories in Italy, one in Florida and recently partnered with a China company to produce the Chinese certified twin P2006T to clients in China, Hong Kong and Taiwan.

These days the aircraft can be certified and flown in different categories. Many of the aircraft fall into the now familiar sub-category and rules of Light Sport Aircraft, present here and in the United States and EASA, CS VLA (Very Light Aircraft) certification rules in Europe. This relatively new category brings many advantages, especially to flight schools who can train commercially on the aircraft but with much lower operating costs than the traditional GA aircraft.

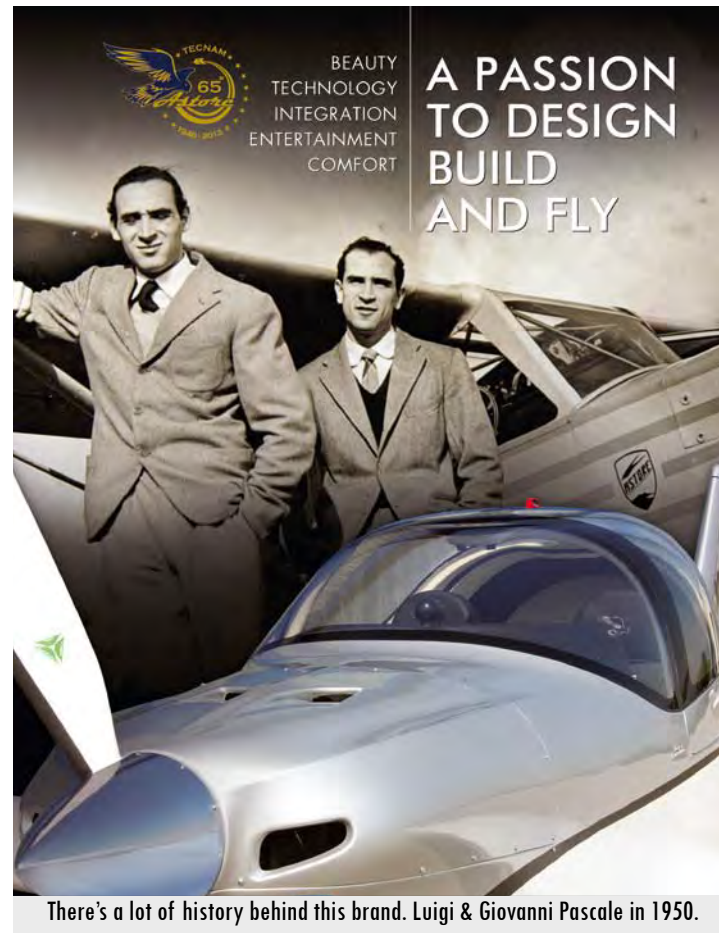
The P92 Range

Tecnam's entry level options begin with the P92 Echo Light which is designed to give people wings with a heavier aircraft feel, but also to be light in acquisition and operating costs.

The P92 Classic De-luxe follows which is ideal for the club situation or for a private owner requiring a basic aircraft that robustly does everything a standard plane would do but at a reasonable operating cost.

Next is the popular metal construction P92 Eaglet, designed with the US LSA market in mind - but what resulted was an aircraft with increased side and forward visibility, larger doors for easy access and a high lift wing allowing a very slow approach and short field landing. It's an ideal private owner aircraft that looks sleek and is ideal for grass field and farm use.

The P92 Tail dragger was the first new tail dragger plane on offer to the aviation market in a long, long time, being all metal construction plus side by side pax seating. The tail dragger also works well as a tow plane and ski plane, and an optional cargo pod



underneath provides ample room for bigger luggage items such as skis, rods for fishing or the odd leg of venison. We are very excited to have our tail dragger demonstrator here in New Zealand.

P2008

The P2008 with its carbon fuselage and metal wings and stabilator has advantages over the P92 series with cabin size, higher cruise speed, superior quietness and improved efficiency. This plane is a perfect modern replacement for today's flight school. It is roomy, sleek and robust. Where the important advantages lie are the low operating costs and low maintenance to TBO costs. Please contact Ruth for exact specifications on this aircraft that is already proving itself in flying schools worldwide.

P2010

The sleek P2010 (PTwentyTen) is a state of the art 4-seater. Ergonomically outstanding with three passenger doors and a baggage door, the PTwentyTen is fitted with either a Lycoming 180 or 215 hp engine. This aircraft has a carbon fibre fuselage with metal wings, landing gear and stabilator. Pilots enjoy balanced controls and of course Tecnam's renowned flight stability. Tecnam always thinks of pilot and passenger comfort first so the cabin provides ample legroom and plenty space for bags. Ruth's team are looking forward to the future arrival of the first (first of type) PTwentyTen to New Zealand.

Low Wings

Low wing options include the tried and true P2002 Sierra Mk.II and the larger Astore. The Sierra was an instant hit in New Zealand, not only thanks to how it looked but also how it flew. Incredibly stable with a stall under 40 kts, this plane made for a great training aircraft and private owners machine alike.

The Astore is a larger low wing with tall people in mind when designed. It has oodles of head and legroom and a baggage compartment, accessible via its own door, complete with a 'convenience' light; Tecnam think of everything!

Twins

The P2006T four-seat twin has been highly appraised by flying schools worldwide due to its very low operating cost, (for example 34 litres of fuel per hour).

More recently Tecnam have introduced their new P2012 Traveller, an eleven seater, single pilot IFR twin. This aircraft is Tecnam's latest innovative offering. Read more about this revolutionary plane including comparison tables at www.p2012.tecnam.org

Options

Tecnam aircraft are specifically built for each customer's unique situation. These days, retractable is an option when ordering most of the two seater range. Class can also be selected; microlight, LSA or GA. An organisation may be recreational only and so a microlight class will be suitable for them, however LSA or GA provides a platform to provide wider training for PPL and CPL. The planes themselves have some extras in the construction for LSA or GA but the base aircraft remains the same. There are also choices available for instrumentation which can include a full glass cockpit (Garmin G3X) or standard analogue instruments.

For more information

Ruth and her team are frequent travelers throughout New Zealand and welcome contact from people in aviation already or just thinking about it. To her, flying in NZ "is all about learning new things every day, no matter what stage of aviation you are at." Contact Ruth directly on 03 750 0780 or email: ruth@tecnam.nz

2019 TECNAM FACTORY TOUR



Contact Ruth 03 750 0780 ruth@tecnam.nz

NOTICE TO TECNAM OWNERS AND OPERATORS

In October last year, the Tecnam Dealership operated by Tecnam Australasia Limited was dissolved by mutual Agreement with Costruzioni Aeronautiche Tecnam s.r.l of Capua, Italy. As a result of this dissolution, Giovanni Nustrini of Tecnam Australasia Limited no longer represents C A Tecnam s.r.l. for new aircraft, spare parts, warranty or customer support. We thank Giovanni for his past contribution.

Tecnam Pty Ltd, a 100% subsidiary of the Italian parent company, was registered in Australia with its place of business on Queensland's Gold Coast. This new company is the Master Distributor for all new Tecnam aircraft and parts for Australia, New Zealand and the South Pacific.

A sales office and parts store has been established in proximity to Southport Airfield at the northern end of the Gold Coast. Tecnam Italy have commenced shipping spare parts by container, with over \$30,000 in spares to support the P2006T light Twin now in stock and a similar amount arriving in November to support the P2008. We currently carry fast moving parts for all models and will build on our stocks with model specific parts as successive containers of new aircraft arrive.

We are represented in New Zealand by our Sales Agents; Aircraft and Marine Ltd.

Please contact Ruth Allanson (03 750 0780) for sales enquiries. Ruth has extensive experience in Tecnam sales and support throughout New Zealand.

Please contact Neil Ross of Aircraft and Marine (027 683 1148) or Colin Alexander at Solo Wings (07 574 7973) for parts support and mechanical issues.

Costruzioni Aeronautiche Tecnam s.r.l are investing heavily in support of the growing demand for Tecnam models in Oceania as evidenced by the recent sales of nineteen aircraft aircraft in Australia and New Zealand. We believe that demand by Flight Training Organisations and private owners, is on the increase and we are ready to meet this with fast delivery times and high quality products.

Bruce Stark
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GAA Matters



The General Aviation Advocacy team is campaigning on two issues rooted in the Civil Aviation Authority. One would hit pilots' pockets. The other (more sinister) threatens your freedom to fly.

ADS-B

The CAA has issued its specifications for ADS-B. It has urged aviators to "beat the rush" and upgrade their aircraft. But it has failed to tackle the unfair cost burden on general aviation.

The financial winners will be Airways Corporation and the airlines.

Research proves that ADS-B will have the most serious impact on smaller commercial operators and private operators who cannot recover any expenses. (Potential victims mentioned this loudly and often at ADS-B seminars across the country.)

The CAA and MoT have held this evidence for more than a year. Yet they continue to not act on it.

Contrast this inaction with the European Union which, when new frequencies were introduced, swiftly offered financial aid to general aviators fitting upgraded radios.

Australia's CASA is developing rule changes making it cheaper and simpler to fit ADS-B in VFR aircraft. And in the US, the FAA has reintroduced its ADS-B rebate.

We see no sign of a decision on funding assistance in New Zealand and the Director indicates his Authority is some distance from following CASA's lead.

GAA's recommendation: Unless absolutely necessary, wait until the Authorities either offer or deny assistance. You might end up paying expensive costs, only to discover that cheaper options are subsequently made available.

Who owns Kiwi airspace?

Can it, like water, be packaged and sold to foreign interests?

We say No.

The GAA opposes an application to restrict 500 sq km of airspace around Alexandra by American-backed Skybase, which wants to test drones flying beyond the line of sight (BLOS). We agree with the locals that Alex is unsuitable for such experiments. It is a poorly protected fire danger area and is increasingly used by private and small commercial operators.

The GAA also criticises the CAA for refusing to release details of any risk assessments by itself or the applicant, despite safety being of paramount public interest.

Skybase withdrew its application with scant explanation, but says it intends to make another. The consultation process would start from scratch. Any hope that protesters will run out of steam is misplaced, given the massive outcry over Skybase's first attempt.

Meanwhile, Incredible Skies has applied to extend its permit to use 874 sq km of airspace from ground to 3000 feet, blanketing Hokianga harbour. It is advertising for foreign customers to test UAVs where liability law is virtually non-existent – unlike, say, the US.

The CAA admitted to us that no consultation was carried out into the initial application, breaking its own rules.

The GAA wants a moratorium on these applications, pending investigation of the impact on communities, dividends (currently, none) for general aviation in return for loss of customary rights, and the desirability of concentrating all UAV testing in one safe area of the country.

More on this and other topics at www.caa.gen.nz

Brian Mackie / GAA

New Reading

81 Lessons From The Sky

By Fletcher McKenzie
Published by Squabbling Sparrows Press
Available as an ebook and paperback via Amazon



81 Lessons From the Sky contains 81 easy to read, voice-of-the-pilot, true General Aviation stories from pilots, including what they learnt from the accidents and near misses. The stories speak of all manner of aviation things that go wrong including, taxiway incidents, fuelling errors, airspace infringements, cloud base confusion, GPS reliance, weather troubles, airspace incursions, and much more.

Fletcher McKenzie will be familiar to many in New Zealand as an aviator, an aviation consultant, and also the producer of FlightPathTV. Interviews with pilots for this series inspired Fletcher to find out and document what good pilots read and what helped them to become safer. That track lead to the incident and accident reports published by Australia's Civil Aviation Safety Authority, by the United Kingdom's Confidential Human Factors Incident Report Programme for Aviation, and by the United States' Aviation Safety Reporting System which services the FAA and NASA.

Fletcher saw the value in bringing a selection of these reports together into one publication of pilot wisdom (albeit after the fact). CASA, NASA and CHIRP were all happy for their stories to be republished. What about our NZ Civil Aviation Authority and their safety reporting database you ask? Sadly, Fletcher's request to NZCAA for contributing material was declined. Yes, really.

It's true that all of the stories Fletcher has assembled have been told before, but how many people seek these out to read them, and how much more convenient it is to have a (nearly) 400 page book to hand which you can pick up and browse through at leisure. Some of the stories are funny, some are a little disheartening, and some are quite frightening. Many include postscript comments and advice from the reporting authority.

Whilst most pilots will read through these and (hopefully) be able to declare 'that wouldn't happen to me', honest pilots will find stories where 'that could have happened to me but I was luckier'. These serve as great reminders of the reasons behind the checks we do and behaviours we practice, as well as being powerful back-of-mind lessons when confronted with any similar situations.

81 Lessons From The Sky is a worthy addition to any pilot's aviation reading collection. It's certainly a worthy Christmas present for any aviator whether beginning or experienced. Aviators who are Air Transport Pilots however are likely to be equally or more interested in Fletcher's companion book, 101 Lessons From The Sky which is focused on accidents and incident reports from air transport pilots.

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PNG Air under New (Zealander) Management



One of PNG Air's new ATR 72-600s

Since moving to Jakarta in 2016 KiwiFlyer contributor Chris Gee has come across several interesting aviation people. One such person is Paul Abbot, a Kiwi who recently became Acting CEO of PNG Air. Both Paul and the company have fascinating stories to tell.

After seven years with PNG Air, recently as Chief Commercial Officer, Paul Abbot has now become Acting CEO.

Paul comes to the job after a long and varied career. Initially from Opotiki, Paul left high school to join the RNZAF's Officer Cadet scheme, as part of an intake alongside Rob Fyfe, who would go on to become CEO of Air NZ. After gaining a Psychology Degree, he was offered a position with the Air Force Psychology team. Instead, he left the Air Force to start a career in marketing, commencing work with Nissan NZ. Paul then spent ten years with Air NZ, and was part of the team that introduced in-flight-entertainment and oversaw the airline's rebranding. Then came a sidestep, as it were, when he took up the position as CEO of Bay of Plenty Rugby, overseeing the team to their Ranfurly Shield victory in 2004. In 2008 a job offer by Toyota Tushu came along, accompanied by the tag-line; 'Are you up for a challenge?'. The fact that the job was in Papua New Guinea wasn't disclosed until the second interview. Paul took the challenge and arrived in PNG in 2009. Although the culture shock was apparent, Paul says New Zealanders tend to adapt well to the situation there due to cultural similarities and are well liked and respected in the PNG community.

In 2011 Paul was brought into PNG Air to help grow the regular passenger service arm of the business and reduce reliance on charter contracts. Up until

that point, PNG Air was mainly operating charters for the resource extraction business. The airline operated a mixed fleet of Twin Otters and Dash 8 aircraft but after analysing the reliability of the local airfields and infrastructure, it was decided to pull out of Twin Otter operations which Paul describes as 'an accident waiting to happen' simply because the small air strips for these Twin Otter operations were not sufficiently maintained to ensure safety. PNG Air opened up two to three new routes per year, culminating in them servicing more than 200,000 passengers annually in 2013.

To step up to the next level in quality, reliability and sustainability, PNG Air went on the hunt for a new aircraft. The ATR 72-600 ticked all the right boxes: It was ahead of the technology curve, had the quietest cabin in the turboprop market, offered higher uplift and efficiency, was encapsulated within a Global Maintenance Agreement, and could operate out of all except one airstrip that the Dash 8 could with minimal payload restrictions. PNG Air continues to offer charter services using its remaining Dash-8 aircraft and has also converted one of its Dash-8s into a freighter. Over the next five years, the aim is to phase out Dash aircraft as new ATR 72s are introduced, potentially including the upcoming STOL variant of the ATR42, which would increase airfields the airline could operate from.

The importance of reliable air travel to the peoples of Papua New Guinea cannot

"There is an unusually high number of lightning strikes, the terrain is formidable, and many of the airstrips are at altitude and challenging to maintain. Armed robberies, including upon the PNG Offices themselves, are a fact of life."

be overstated. The forbidding terrain and underdeveloped infrastructure in the country mean that for many communities there is, quite literally, no alternative to flying, unless you are willing to undertake weeks of treacherous travel on foot. Even though Papua New Guinea's two main urban centres, Port Moresby and Lae, are only 302 kilometres apart, there are no roads connecting them through the mountains. This means the only alternative to air travel is a journey around the coast by boat. Maintaining the lifeline of air-travel within PNG is a big responsibility for PNG Air, with the lowering of the cost of air travel a priority for the airlines' shareholders, whom comprise diverse members of the PNG community. PNG Air's contribution to the local community was apparent during the recent devastating earthquakes in the region, with the airline's Dash-8 cargo freighter used to ferry supplies, sponsored by Exxon Mobil.

Operating an airline out of Papua New Guinea presents Paul and his team with unique challenges. Firstly, there are the physical difficulties of flying in the region, with weather extremes leading to a route-completion rate as low as 60% during the rainy season. There is an unusually high number of lightning strikes, the terrain is formidable, and many of the airstrips are at altitude and challenging to maintain. Secondly, the dangerous and complicated security situation means Paul has to weigh up the responsibility to supply services versus the safety of his staff. Armed robberies, including upon the PNG Offices themselves, are a fact of life. There can be no after-hours services in PNG, with operations taking place only between sunrise and sunset. This is not due to any operational limitations in pilots or aircraft,

but because there is no infrastructure operating at the airfields nor public transport available at night - because the security situation often becomes untenable after dark. The security situation also affects the demographics of PNG Air's customers, where the danger scares away traditional tourists, despite the nation having some of the best hiking, fishing, diving and surfing in the world. Just recently an inter-tribal conflict blocked access to an airport that was the only way in or out for that community, forcing them to take a 6-hour boat trip to get to the next town.

Millions of dollars of Aid money, \$646 million in 2016 alone, is now pouring into Papua New Guinea through global sustainable development initiatives, with the Australian government footing the majority of the bill, along with New Zealand, Japan, the World Bank and China. Despite the wickedly tricky problems concerning health, security and education, there is indeed a rising middle-class emerging as Papua New Guinea follows, somewhat belatedly, the Asian Development model, with the lessons learnt elsewhere in the areas of cultural, economic and environmental sustainability being applied. PNG Air is uniquely placed to be part of the solution for PNG's development while remaining a sustainable and growing business in the region. PNG Air has shown its optimism in the sector not only by purchasing new aircraft, by also undertaking a re-branding exercise that saw the airline win the 12th Rebranding 100 Award for their new livery. The design includes cultural symbols from across a wide range of ethnic groups, as well as national icons such as the Bird of Paradise and Queen Victoria butterfly.

With the arrival of the new aircraft, a new look, and a passionate CEO who is engaged with the community and committed to the airline, the future is looking bright for PNG Air, and therefore for the many communities that rely on them.

Chris Gee 



PNG Air Dash 8 freighter conversion.



Local culture is embraced by the company, also evident on the aircraft livery.

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Mount Cook Village dominated by the landscape.

Fly yourself to The Hermitage

Whether you're into mountaineering or just beautiful New Zealand scenery, Aoraki Mount Cook is surely an interesting location to fly to. Ruth Allanson visits for a few days and discovers there's plenty to do:

Mount Cook Airfield is a sealed runway 1593m long and available for use with prior permission by The Hermitage. Phone 03 435 1809 and ask to speak to the person in charge of landings. You will then be emailed a form which has all the information and costs and if you are staying with the hotel they will arrange to pick

your group up from the airfield.

Flying into the airport requires some research on special procedures as it is situated within the Southern Alps MBZ 118.60. Read up on this in your AIP under ENR 1.16 'VFR Operations'. Some of the main points include making succinct and precise radio calls no more than five minutes apart with your call sign, position, level and direction, ideally as you pass an identifiable geographical feature.

The local operators are flat out from November to March especially on fine days, the day after a front has gone through, so



Wayne and Aru Allanson on a local walk.



Infiite Squirrel on tourism duties.

it is a good idea to familiarise yourself by looking at a topo map before you go. Beware the map shows height in metres instead of feet but it has many of the geographical names not present on the aviation map - which is what the local operators will be calling on the radio. Remember to turn on your lights on within the MBZ and check the wx before you set out. It can change swiftly in the Southern Alps.

The Hermitage hotel has improved over the years and I consider it a special place, especially if you have friends from overseas with you. Early birds get the special rates but a Standard double Mount Cook View room at time of writing is \$165, fairly sharp considering the view and location. The buffet in the Panorama Room is a memorable experience; the price starts at \$56 per person and is worth every cent. The focus is on NZ fare, such as Venison ragout and local Aoraki salmon. My recent visit in winter saw a major renovation happening to their main restaurants so I dined upstairs at The Sir Edmund Hillary Café & Bar, which has breath taking views of the mountain that can be watched for hours.

The Hotel is also the base for the Sir Edmund Hillary Alpine Centre. Every Kiwi (and their friends from overseas) will find something wonderful about this place. It contains a fascinating history on the region, all about Harry Wigley and many other notable people; the common theme being their personal goal to better the region for access by tourists. Harry spent hundreds of hours overseeing development of a wheel that would protrude through the ski during take-off and landing at the airfield. The ski was then mechanically lowered during flight to allow landings on the Tasman Glacier. Harry piloted an Auster aircraft, the first plane to use the retractable ski, on 22nd September 1955 with Alan McWhirter and Sir Edmund as passengers for the first landing on the glacier on this historic day. This original Auster aircraft is now suspended from the ceiling at the centre.

The in house movie theatre seat 165 people and is the only place in the world where 2D, 3D and a Digital Dome Planetarium are all in the same spot. The entry for the centre is \$20 per adult and that is for 48 hours. With the movies on offer, museum, the café and accompanying shop, it is easy to use up two days at the centre.

What is fantastic about the village are the walking tracks that link it up. If you google DOC walking tracks Mount Cook Village, you can download a PDF brochure. The two I recommend, (although I did in the Winter when there was snow and frozen ice on the ground, which made walking tricky) are because the views are just outstanding. The Kea Point track winds gently from the village to the Mueller Glacier moraine wall. The track passes through landscape that was formed in 1913 when the stream cut through to the original hermitage site, damaging the building. The



Mount Cook Ski Planes' Cessna Skywagon.


height gain is 180 metres over 3 km and the views at the platform are of Mount Sefton, the Footstool (the giant 9068 foot mountain towering over Mt Cook village), Hooker Valley, the Mueller glacier lake and Mount Cook. The other walk is the Hooker Glacier which is 4 hours return from the village, great for a decent leg stretch and views that have you stopping around almost every corner to take snaps.

While you are there I would highly recommend going for a ride in the Mount Cook ski plane and landing on a Glacier. It is quite an experience and one of the very best I have ever had as a passenger in a plane. Despite my knowledge of landing on small bush strips, the snowfield looks like a postage stamp on approach due to the slope. We glimpsed a bride dressed in crimson half way through her wedding as we approached in the Pilatus! www.mountcookskiplanes.com

If you are interested in a day trip for the girls or an overnight stopover on your way home, check out Glentanner. This is close by and they run the Glentanner Park Centre which includes accommodation, activities complete with an onsite shop, café and bar; great if you want to pull up in the plane, park and stay. Landing fees are just \$15 for us privates and of course take your pickets as you can park right by the main building and tie down.

The views from the café are right up the lake with Mount Cook as the back drop. Check out their webcam for the wx conditions: www.glentanner.co.nz/web-cam.

This area to me is the heart of NZ early mountaineering and carries a very special feel to it, and is becoming increasingly popular to our overseas tourists. Make sure you capture your slice soon as another one of our beautiful Places to Go.

Ruth Allanson 



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Gavin Conroy image

Richard Hood in Pitts Model 12 ZK-PTS. Gavin Conroy captured the image at Warbirds Over Wanaka 2014.

Aerobatic Sequence Design

Flying a display ranges from a top level competition aerobatic routine all the way back to a quick beat-up in front of your friends, or a zappy low-level impromptu hoon around (though this might only be something that gyro pilots your Editor associates with get up to). Wherever you are on this spectrum, there are some very simple considerations (legality notwithstanding) to keep top of mind in order to stay safe.

Resident KiwiFlyer Test Pilot and Aerobatic Champion Grant Benns has had a break over recent issues. Prior to that he wrote an introductory article on designing aerobatic sequences (available for free download online in Issue 54).

To recap Grant's advice via the sub-headings from that article:

1. Know each figure you intend to fly and be confident you can fly it
2. Know the entry speed range for each figure
3. Know how much height you will lose (or gain) with each figure
4. Define your height limits

5. Place figures in order of exit speed achieved to entry speed required
 6. Start high, finish low
 7. Place energy sappers early
 8. Remember to turn around
 9. Consider the horizontal distance required and available
- And when you contemplate flying the sequence:
10. Create height/speed 'gates'
 11. Consider 'outs' or escapes
 12. Don't ad-lib

Grant continues here with a presentation of sequence design for competition aerobatics where a variety of rules must be accounted for to keep the playing field level and judging fair. The modern way to design a compliant sequence is (of course...) with an App (and in the next issue we'll explain how to program the drone to fly it for you... don't worry, kidding ☺). Grant writes:

Last year I wrote an article on sequence design, where considerations about the use and placement of manoeuvres in a sequence was discussed.

A poorly designed aerobatic sequence will, at-best, be a struggle to cleanly fly and, at-worst, be outright dangerous. The aim of competition aerobatics is to win, so why start on the back foot with a bad sequence?

Free Sequence Origins

Unfortunately, sometimes you have to work with what you have got, such as the prescribed 'Known' sequence, in which all competitors must fly the same sequence of manoeuvres in a category. Generally, these sequences have been designed by seasoned and experienced senior competitors, quite often in a small group with an appropriate name like 'Sequence Design Committee'. A proposed sequence will be tested and peer reviewed before being released to the masses. In New Zealand, we generally adopt the Known sequences proposed by either the International Aerobatic Club (funnily enough, an American organisation) or the truly global organisation CIVA, after a process of peer review that starts along the lines of 'whaddaya think?'

Design Rules

More challenging for competitors is to freely design their own sequence, which can seem somewhat daunting at first, given the rules and regulations to which the sequences must abide by. As with other forms of motorsport, the rules are there to ensure the playing field is level and competitors know the boundaries in which they must operate - in the case of competition aerobatics this is to ensure the different categories from Primary to Unlimited

have limits of difficulty that reflect the supposed skills of the pilots flying them, the capabilities of the typical aircraft that may be expected to compete, and suitable safety margins. As you would expect, the lower categories have more simple manoeuvres flown at higher altitudes, while the higher categories have progressively more complex manoeuvres flown to lower altitudes. For a newbie, there is an expectation that you start in the lower categories!

Category Differences

When confronted with designing a sequence for competition, you could be presented with a selection of manoeuvres you may not have actually flown, such as in a programme flown at competitions called the Free Known. In this programme, flown in the Intermediate, Advanced and Unlimited categories, competitors construct a sequence using a selection of five prescribed manoeuvres as well as some additional self-selected manoeuvres to link them nicely together. For the Recreational and Sports categories, you can freely select your manoeuvres however they must comply with the category rules in terms of difficulty (simplicity) and variation.

OpenAero

The rules that govern the selection of the manoeuvres are somewhat complex, however I would recommend reading them first before moving to the design stage using the online software that I will describe soon. Fortunately, in recent times, several clever IT people, also passionate about aerobatics, have developed an on-line software programme called OpenAero. This portal has the various rules for each category built-in - it knows the limits of difficulty and variety, and enables you to easily manipulate the





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layout and substitute different manoeuvre, all while keeping a total of the overall difficulty score (called K).

The best news is it is free, a term that has ring to it for pilots! There are no pop-up adverts or suggestions for upgrades, and you can play around on it, whilst saving and printing your results, to your heart's content.

Step by step

As a demo/tutorial, what follows is an intro into using OpenAero which, I hope, will demystify another aspect of this big scary thing called competition aerobatics (you can also use this programme for drawing up your Sunday/airshow routine too). I would recommend having this article sitting beside your computer keyboard.

Open OpenAero

First of all, you will need to be on-line (on the internet) to get the best out of OpenAero, and the programmers recommend using Google Chrome too - other web browsers can cause the odd glitch. Search for OpenAero and you should find <https://openaero.net>. When you open this website it will load OpenAero into your browser as an extension. Now, each time you open OpenAero on this computer, it will 'remember' you and any sequences you have been working on.

There is a really good 'help' section accessed off the Help tab at the top of the page, if you need to delve deeper.

You will want to 'save' your sequences, so it would pay to set up where you want to download your sequence file to - in Chrome this is done from *Preferences* in the Chrome menu (top left corner),

then select *Advanced* and look for *Downloads*. You can now *Change* the place in your computer that you wish to save your completed sequences.

Sequence Info

When you first open OpenAero you will be on a screen full of blank spaces titled *Sequence Info* and *Figure Editor* tabs in orange. The start/default tab is *Sequence Info*. This is where you can set up personal data, such as name, aircraft type and registration, which will personalise the completed sequence sheets for use by the judges.

You need to select the *Class* (Power or Glider) and the *Rules* - for flying in New Zealand competitions select NZAC (NZ Aerobatic Club). You now select the *Category* you wish to fly, which will determine the complexity and variation rules - for this article we will use *Sports*. You now need to select a *Programme* - in this category your only choice is *Free*. You are now all set to create your sequence.

Figure Editor

By clicking on the *Figure Editor* tab you are now in the side of the programme that enables you to build your chosen programme's sequence of figures (manoeuvres).

You will notice an *Alerts* box in red/orange below the *Add Figure* area. This, effectively, represents the Rules, telling you what you are missing to complete the sequence in accordance with the underlying rules. The *Family* describes the different base manoeuvres - for example, Family 1 are lines with roll/snap or spin elements, Family 7 are loops, Family 8 are Cuban and humpty-bumps and so on.

To the right of the *Add Figure* box is a running total of *Total K*, or difficulty factor, with the maximum K in brackets below, as a reminder/target. As you add figures to your sequence, the Total K increases by the amount of each new figure. When you have finished building the sequence, the *Total K* must be no more than the maximum allowable K - the *Alerts* box will tell you if you have exceeded it.

Time to add figures

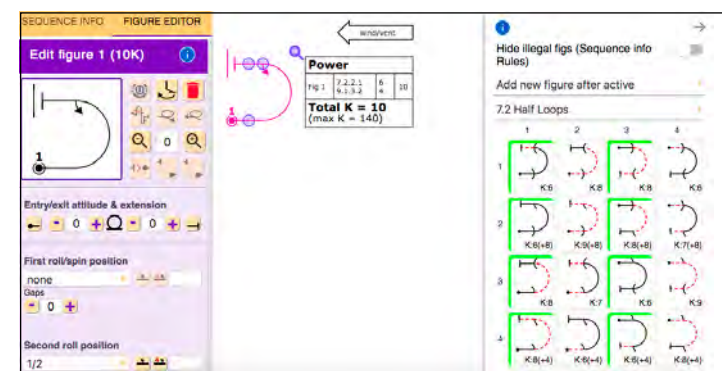
Clicking anywhere in the Add figure box will bring up a menu of allowable figures on the right side of the screen, starting with *1.1 Single Lines* - this is a Family 1 figure that you must include, somewhere in your sequence. However, just because it is numbered Family 1 doesn't mean you have to use it first - you may elect to start with something different, like a Family 8 loop.

At all times remember that it is in your interests to select manoeuvres you like, your plane likes and you are good at - this is your chance to design a friendly sequence which can impress the judges. So let's add a good starting manoeuvre - normally a start-high/fast manoeuvre, as this may be the only time you have speed and height to burn! How about a half-loop with a roll off the top?

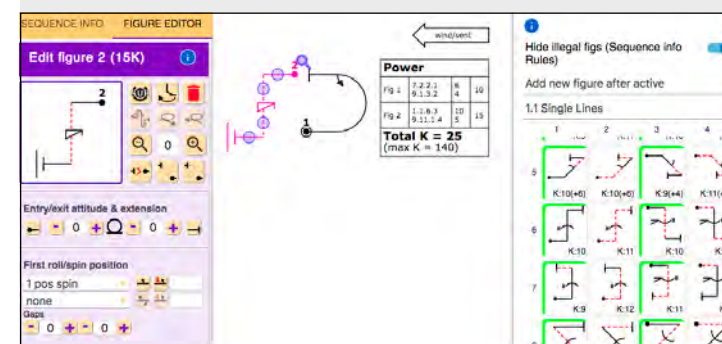
Figure 1

In the right-screen box, select *7.2 Half Loops*, which will bring up a selection of different half-loop combinations that are able to be used. Black solid lines are the positive-G parts of a figure, while dashed-red lines are inverted-G portions. The half- and full-arcs across the main lines represent either a half-roll that must be completed for the figure to be flown correctly, or an optional roll that may be inserted in the figure.

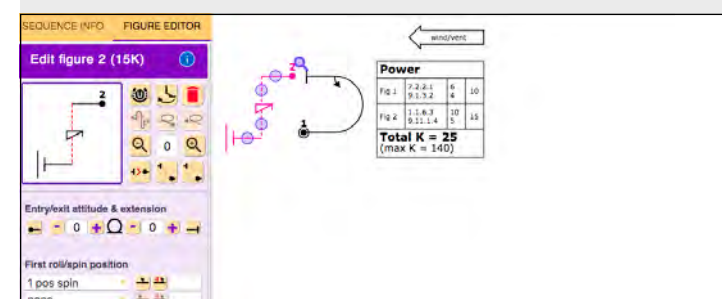
By clicking on the figure in column 1 of row 2 we select our



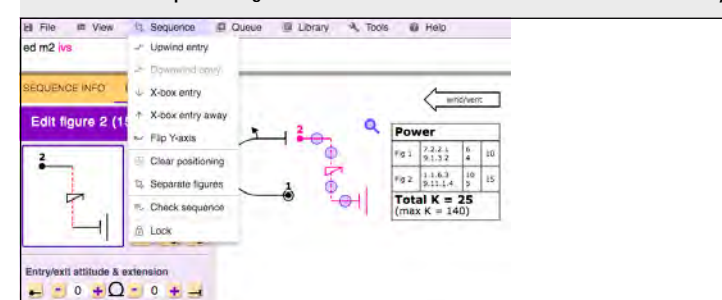
Adding Figure 1 in OpenAero, a half loop half roll.



Adding a spin for Figure 2.



Our choice of a spin for Figure 2 has resulted in an undesirable down-wind entry.



Convert the spin entry direction (and all preceding manoeuvres) here.

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desired half-loop/half-roll and it gets displayed in the main screen, complete with a summary of the elements of the figure in the adjacent *Total K* box. Because it is red, we can modify it further if we like, for example by making the roll 1 1/2 rolls instead of a half-roll. This is done in the *Edit Figure* box, where you will find an option called *Second Roll Position*. Click on the drop-down to change 1/2 to 1 1/2 and the figure updates, with increased K, to your new selection. Do you want to do a 1 1/2 roll in your Robin? Probably not, so let's change it back to a 1/2 roll!

Figure 2

Time to add a second figure - we are high and slow, and we must have a spin (check the Alerts) so let's do that. A spin is created using a single line with a spin element, so we select *1.1 Single Lines* and search for an upright entry (black horizontal line), and inverted down line (the nose drops into a spin, with slightly negative G) and a solid black line to exit (upright = positive G). This will be found in column three, row six - don't ask me why it is so buried, considering it is the most used and most basic spin, but from this you can start to see the vast array of figure variations available to be flown. After selecting the base element - the line - we now must add the spin element, from the drop-down in *First roll/spin position* menu of the edit figure box. Click on 1, for 1 turn, and see how this is added to the figure, with the *Total K* increasing accordingly. Magic!

Wind... start direction

Above the Total K box is the wind arrow, an assumed wind direction. When your final sequence is saved and printed, there will be a form produced with the sequence shown flown in both assumed wind directions. The wind direction for a competition flight is set by the Contest Director, on the day of the comp, so you must have a form that the judges can use for either direction. When creating your sequence in OpenAero, the wind is always displayed right-to-left on the screen.

Spins aren't great to do 'down-wind' - they chew up a lot of box-space, which is only 1000m from side-to-side - so we could either place it somewhere else in the sequence (even start with it) or change the direction of our first manoeuvre so that the spin is flown into wind. The menu at the top of OpenAero has some other tabs, like File, View, Sequence, Queue and so on. By selecting *Sequence* we find an option for *Downwind Entry* - selecting this will change the entry direction of the first manoeuvre and therefore swap all the subsequent manoeuvres too. This can be switched back with the *Upwind entry* selection.

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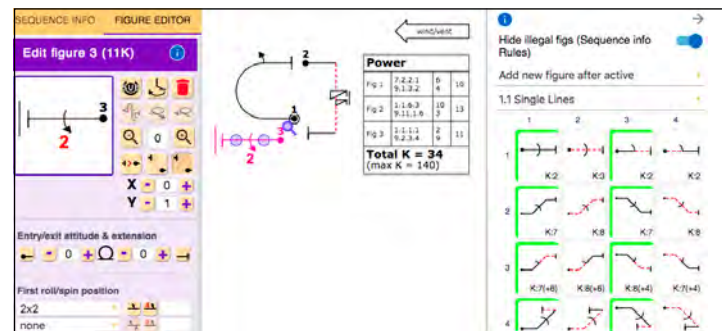
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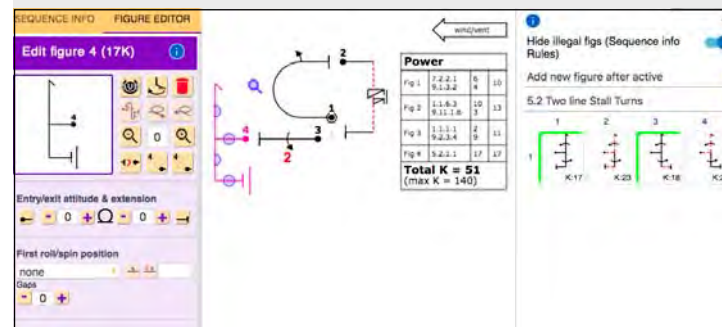


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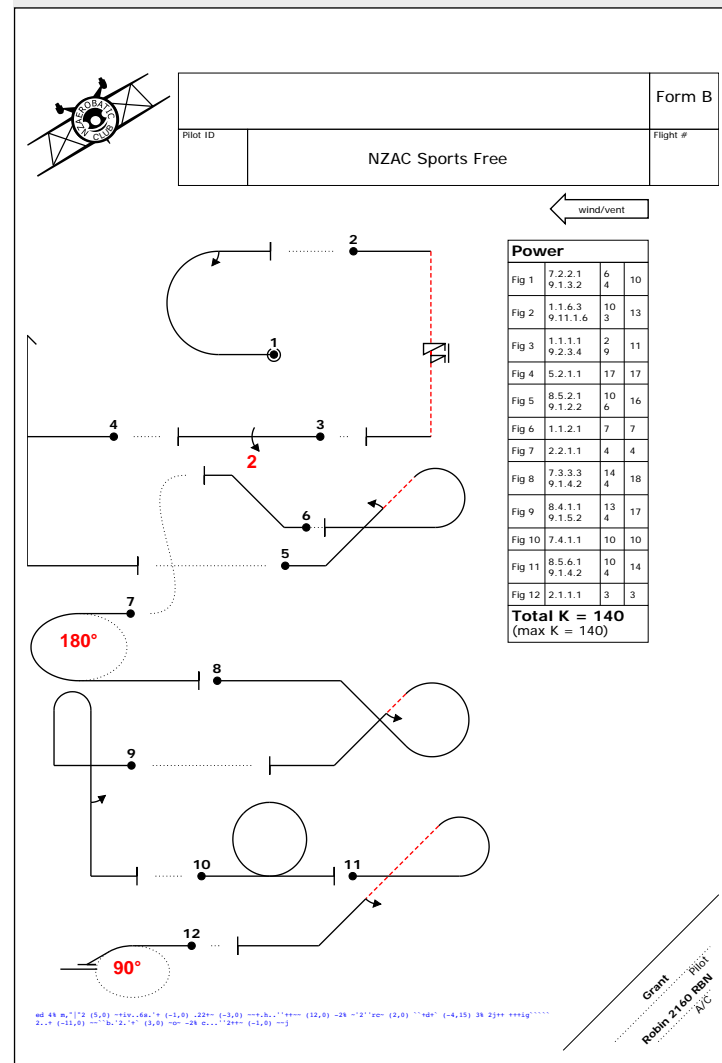
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A 2 point roll for Figure 3.



And a stall turn for Figure 4.



Grant's completed sequence, ready to fly for a max K of 140.

At right: Doug Brooker performing in his MXS.

Changing the spin

I don't like the one-turn spin, as it has me exiting in the wrong direction for what I want to do next, so while the spin figure is still red I can change the spin into a 1 1/2 turn spin, which has a K due to being easier to more accurately recover. Really!

Figure 3

We come out of the spin low and fast, and will need to turn around to stay in the box. But we have a bit of room here to throw in an aileron roll - in fact, so much speed we can show how good we are by doing a 2-point roll. Select 1.1 Single Lines and row 1 column 1 has an upright straight a line, to which we add a roll by selecting the First roll drop down under the Edit Figure 3 purple box on the left. There are a multitude of roll options, but a 2-point roll is called 2/2, i.e. one complete roll split into two. Four-point rolls follow a similar convention - a half roll flown with a hesitation at each 90 degree point would be shown as 2/4, while full 4-point roll would be 4/4. Easy?

Now we can turn around.

Figure 4

We could do a variety of manoeuvres here, so long as we don't repeat anything we have already done - a rule called No Repetition (the *Alert* box will tell you if you do repeat something). A half-cuban? How about a stall turn? Yes, I like those and I am quite good at them! Stall turns are in the base family 5.2, which you can find on the right side of the screen and drop down. There is only one row, and columns 2 to 4 have either inverted starts or finishes or both - we don't want to do that, so select column one, a vanilla stall turn. You will see small arcs through the up and down lines, representing places you may insert optional roles, but let's not... this is only Sports and a slightly underpowered Robin. Clicking on column 1 selects the figure to the main screen, updating the Total K (to 51...only 89 K to go).

Layout

At this stage, you may want to spread our three selected figures out a bit, to make it easier to read. The finished sequence needs to fit on the page nicely, in a flow or manner that is easy to ready in the heat of the actual flight. OpenAero has a range of buttons that allows you to manipulate the layout - scaling, shrinking and stretching, linking etc. Clicking-and-dragging the figure you want to move is the easiest way to move figures around - a small dotted line gets drawn between the selected figure and the previous figure. Hovering your pointer over the various buttons in the *Edit Figure* box will allow you to explore the other options. The blue circles in a highlighted figure are also points you can click-and-drag to change the length of the various lines of a figure. Also, in the *Figure Editor* box below the *First Roll/Second Roll* boxes you will find Gaps boxes, which have a similar effect.

With a bit of time and artistic license, the basic sequence drawn by the system can be changed into something much more easy to follow, by the pilot and the judges. An easier-to-read form may even improve your score...

The final result

Once you have finished inserting all the figures required by the rules, without exceeding the K limits, you will see no messages in the Alerts box. Hopefully, with great skill, you will also be at the maximum allowable K - this will ensure you have the best chance to maximise your score, as the total score for the sequence you fly is the individual score for each figure (a score of between 0 and 10) multiplied by the K (difficulty factor). For Sports, the theoretical maximum is therefore 1400 points, being 140 (total maximum K) x 10 (perfection!). If you think about this some more, you may realise that it is best to spread the K reasonably evenly across your chosen figures, so that getting a bad score on a high-K figure doesn't drag down your total score. In Sports, the maximum number of figures you may have in a sequence is 12 so it would not be sensible to fly just two incredibly complex figures of 70K each, with a high chance of scoring poorly in either, when you could fly 12 figures with an average closer to 12k each. Alas, it is practically impossible to achieve this, but it is still worthwhile making an attempt to both get to 11 or 12 figures AND spread the K evenly.

Save/Print

Click on the OpenAero *File* drop-down and select *Save Sequence*. This will open a *Save File* box, reminding you how to change where Chrome will save your file.

If you wish to print your forms, you have variety of options and formats, also found on the File drop-down menu, at the bottom. Click on *Print/save Forms* to open the dialog box.

My attempt

So, continuing on from the first four figures described above, I have completed a Free sequence that complies with the rules for the 2019 NZAC Sports rules. What do you think? Is it flyable? I think so, although if I flew it in a Robin or Cessna 152A I would plan on taking a break after figure 5 and probably after figure 9 too. Remember, 'breaks' or interruptions, used to climb higher and regain energy before recommencing the sequence, are 'cheap' - the penalty is only 10 points for each break in Sports, so two breaks will only penalise you by 20 points out of a total of 1400 potential points. Given you are more likely to fly the subsequent figures following a break with more energy that comes from the regaining your star height, and thus score better, it is a highly recommended strategy to take planned breaks. Of-course, an aircraft such as an RV6/7/8, Pitts or G202 should eat this sequence without stopping, although maybe not in a winning way - many a well-flown lesser aircraft has beaten high-performance aircraft over the years.

You can do it too.

Grant Bennis



En route: A trip around the Garden City

Before departing our shores for work opportunities in Australia a couple of years back, Nick Ashley contributed a regular series we called 'En route', each article being about looking for interesting things whilst flying about, rather than just straight-lining it on a GPS track from A to B. Nick recently returned for a short time and couldn't resist the opportunity of going for a fly and writing about it:

It was a wisdom tooth extraction, of all things, that facilitated my first flight in Canterbury after three years of living away from the mainland. As the dental procedure was easier to perform back in Christchurch, I hopped back across the pond from Australia for a long weekend. The opportunity of a local flight was too much to resist so I booked one of the Air New Zealand flying club's Cessnas, a 152 aerobat that was no stranger to my logbook from PPL training through to loops, spins, and stall turns.

Since my last time flying with the club it had relocated to Rangiora aerodrome (NZRT), a 30 minute drive north from Christchurch. I was accompanied by my flight instructor friend Joshua Shotton who was happy to keep an eye on me from the right-hand seat. It had been some time since I operated out of such a busy uncontrolled airfield like NZRT, being more accustomed to the helpful directions from Sydney's air traffic control services.

Hearing a pilot call number five at early downwind, the aerodrome seemed to be a lot busier than I remembered it nine years prior when I spent several hours slogging through circuits in a Piper Cherokee. Other smaller airfields nearby contributed to the radio chatter, with pilots communicating on the same common frequency.

We waited beside the 1180 m grass strip for our turn, and after a microlight in front of us slowly clawed its way skyward I was able to sneak through in a gap in the traffic, helped by a mild sea breeze from the east. I pointed the aircraft's nose straight for the coast, eager to be clear of the busy local airspace.

We passed south of the prominent

Daiken customwood factory, known by local pilots as the VFR reporting point 'Sefton Chipmill'. Its large steam column makes for a perfect windsock, and suggested that the sea breeze was building.

Upon reaching the shore, we turned to track south clear of the control zone surrounding Christchurch International Airport (NZCH). Passing the growing Pegasus subdivision and then abandoned earthquake-damaged suburbs near the Avon River, there were very evident changes to the city's landscape since my last flight in the area. Our track brought us to abeam the New Brighton Pier, the unmissable VFR reporting point marking the edge of a GA area carved out for upper-air training. I had spent over twenty hours in the zone throwing the little Aerobat through various manoeuvres over the course of my aerobatics training, and then subsequently with brave friends strapped into the passenger seat. We would not be flying inverted today though, and I angled the Cessna to cut across to Banks Peninsula, the large but long-extinct volcanic area east of Christchurch city.

We passed over a cluster of buildings perched atop Godley Head at the entrance to Lyttelton Harbour, an interesting historical site that could easily go unnoticed. The structures are the remnants of a coastal defence complex that once comprised searchlights, radar facilities, and three Mark 24 six-inch naval guns. Constructed during WWII, the battery was manned by hundreds of military personnel who would have formed the front line in repelling a feared Japanese invasion fleet that never arrived.

We had just left the Godley Head fortifications behind when another much older set became visible out the left window. The tiny Ripapa Island is a Category 1 historical site, with Māori initially realising its military value and constructing a pā in the early nineteenth century. In the late 1800s the island was converted into a quarantine and prison facility before a complete overhaul started around 1886 for the construction of Fort Jervois. Comprehensive fortifications along with four naval defence guns had been installed by the start of the

First World War, making use of clever 'disappearing' technology to protect the fort's garrison. After being fired, the guns' recoil forces were utilised to slide the entire barrel underground where it could be reloaded in safety, with personnel protected from return fire.

Our westward track into Lyttelton Harbour was now headed directly for the much larger Quail Island, named for a now-extinct native bird, the Koreke. The island was once a quarantine station like the smaller Ripapa, but unlike its smaller sibling was never militarised. Its intriguing history instead included use as a leper colony, influenza hospital, and staging ground for Antarctic expeditions with both Robert Scott and Ernest Shackleton making use of the island to prepare for their southerly expeditions. Perhaps the island's most notable feature is a large ship graveyard on the western side, with as many as eight rotting hulls visible at low tide. But by now it was time to think about heading back to Rangiora. I asked Josh if we could take a different route home by popping up over Banks Peninsula and down into Christchurch city. As Josh received a clearance from the helpful tower controller I put the 152 into a climb to clear the hills ahead of us.

We cruised through a saddle beside the Christchurch Gondola which was back in operation following two years of post-earthquake remedial work and checks. The repaired cable car was a sign of Christchurch's recovery, but the city centre area was still a patchwork quilt of broken buildings, empty lots, and rebuild work, with the abandoned Christchurch Cathedral taking centre place.

We circled the city, making the most of a lack of other aircraft, a sharp contrast to the bustle of Rangiora we now were returning to. It was a quiet afternoon at Christchurch International and the lack of traffic meant that we successfully requested and received an overfly clearance abeam the tower. The apron looked decidedly empty with only a couple of A320s and a few turboprops parked up. I began to descend to join a north-bound VFR departure route as a solitary Air New Zealand A320 turned to line up on Runway 02.

Our route back to NZRT was straightforward, with a helpful line of electricity pylons guiding the way. I switched over to the local radio frequency and was surprised to hear a conspicuous lack of chatter. As I started to double-check the radio settings Josh pointed out the need to take care with the airspace, "some people start to climb too early for the standard overhead rejoin and you can easily bust through into Class C. Stay at 1500 feet until you pass the Ashley Bridge." I followed the instructions, and noticed several light aircraft parked up beside the runway at NZRT. It looked like a fly-in was underway. I decided to take the opportunity to get back down on the ground in peace, looping around into a close downwind. This made me too high on base and finals though, and Josh's instructor instinct kicked in with a curt comment of "power controls height". The thought of dozens of pilots from the parked aircraft looking on galvanised me into appropriate action and thanks in part to the Cessna's high-drag flaps I managed to pull off a nice touchdown in the middle of the strip.

By the time we had parked up and unfolded from our little 152, the airfield had sprung back to life, with the radio back to almost nonstop position reports. "Just in time" I quipped to Josh. "Too right" was his reply, as two Pipers trundled past. It was great to see GA alive and well, thriving even, in North Canterbury. No wonder, given the wide variety of flying possible in the area as evidenced by my quick and long-overdue trip around the garden city.

Nick Ashley



Daiken customwood factory (2)



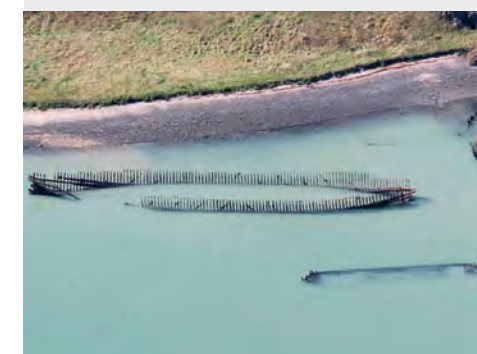
New Brighton Pier is a useful reporting point (3)



Remnants of Godley Head's defence complex (4)



Disappearing gun emplacements on Ripapa Island (5)



The Darra, 1 of 8 of Quail Island's shipwrecks (6)



The busy Lyttelton port (8)



The Christchurch Gondola's upper terminal (9)



Ruins and signs of new life in Cathedral Square (12)



Overflying a quiet Christchurch Airport (13)



12 aircraft on the ground at Rangiora Airfield (14)



Nick's track with photo reference points.





Gavin Conroy image

Battle of Britain Memorial Flight 2018

'Trenchard Large' formation of the Battle of Britain Memorial Flight 2018: DC-3, Lancaster, two Hurricanes, and three Spitfires.

Whilst in the UK by invitation to photograph the RIAT (Royal International Air Tattoo) aircraft, not to mention fly with the 'Flying Legends' warbirds at Duxford, Gavin and his photography friends managed to organise an air-to-air photo shoot with the Battle of Britain Memorial Flight. For the RAF 100th anniversary this flight was expanded to seven aircraft led by the DC-3 and Lancaster. As Gavin explains, the sense of history was palpable:

When I took part in the photo flights that led up to RIAT in 2017 we put a request through to fly with the Battle of Britain Memorial Flight (BBMF) as they headed to RIAT for the show. That request was declined mainly due to logistical reasons which was fair enough.

But we don't give up easily, so as this

year was the 100th Anniversary of the RAF we thought it could well be worth trying again. If there was one year to do it, it would be this year, so a request was made to do it before the RIAT flying started - as we hoped this might avoid last year's challenges. This time we were successful!

Aircraft numbers would be confirmed closer to the time, but we were to have the BBMF Lancaster, DC-3, one Spitfire and one Hurricane fly the Trenchard formation which was developed this year in memory of Lord Trenchard who is considered by many to be the father of the Royal Air Force.

The Trenchard formation is essentially a diamond shape lead by the DC-3 with the Lancaster line astern, a Supermarine Spitfire Mk XVI on one wing, and a Hawker Hurricane Mk IIc on the other.

We were more than happy with that!

We briefed via Skype from Oxford with the BBMF crew at RAF Coningsby. The night before we received the briefing notes from the CO of the BBMF at 11.57pm which consisted of 57 different slides, so not a lot of sleep taking all of that in. Three of us briefed with the BBMF. The only suggestion from me outside of what they wanted to do was ten minutes with the Lancaster solo at the end if we had time. This was a rare opportunity and I knew I would never get to fly with this machine again. Our camera plane would again be the Skyvan.

The most challenging part of the flight we thought was the introduction of a new formation for the 100th RAF Flypast. It was called "Trenchard Large" and the RAF wanted good images of that formation. This was the same as Trenchard but with

the addition of Supermarine Mk IX and Mk XIX Spitfires and another Hawker Hurricane Mk IIc added - so we were in heaven now! We briefed for around an hour. The biggest challenge for the pilots was for the formation to be as tight as possible for us, otherwise the formation would look too spread out and the aircraft would appear too small.

We took off from Oxford in average weather that fortunately got better as we went during the 45 minute transit to RAF Coningsby. We joined overhead with the BBMF and they were breath-taking as they approached from some stormy clouds in Trenchard Large. It was enough to make a grown man cry and I nearly did! One could not help but think about the sacrifice made by so many, so that decades later we could be at 3000 feet enjoying the view of these legends.

Over the next 45 minutes we flew Trenchard, Trenchard large, the five fighters as a Spitfire Vic, and Hurricane pair. We then went onto the DC-3 and Lancaster as a pair and finished with the Lancaster solo. We did not get the ten minutes I asked for (we got five) but the pilot came in close; I could hear the Merlin's crying in anger and it was incredible. As per usual it was all over too soon. A boyhood dream of flying with a BBMF aircraft had just come true with nearly the entire fleet - an unheard of occasion. I slept the whole transit back only waking when the wheels hit the runway. It was exhausting but so worthwhile; once in a lifetime stuff really. Many thanks to the RAF and BBMF for making the flight possible. Those images will live on forever.

Gavin Conroy



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Avro Lancaster PA474

An air to air photo not likely to be repeated, the BBMF DC-3 with Lancaster and Supermarine Spitfire Mk.XIX in a nice stack.



Supermarine Spitfire Mk.XIX: PS915



Hawker Hurricane Mk.IIc: LF363



Supermarine Spitfire Mk.IX: MK356



Supermarine Spitfire Mk.XVI: TE311



Close up look at the four man Lancaster crew. Looks pretty cosy!

Commemorating the 100th anniversary of the Royal Air Force, the Battle of Britain Memorial Flight flew a seven ship 'Trenchard Large' formation from Coningsby. Gavin Conroy was in the UK as an invited photographer for the occasion. The experience, needless to say, was "breath-taking". All images by Gavin Conroy.

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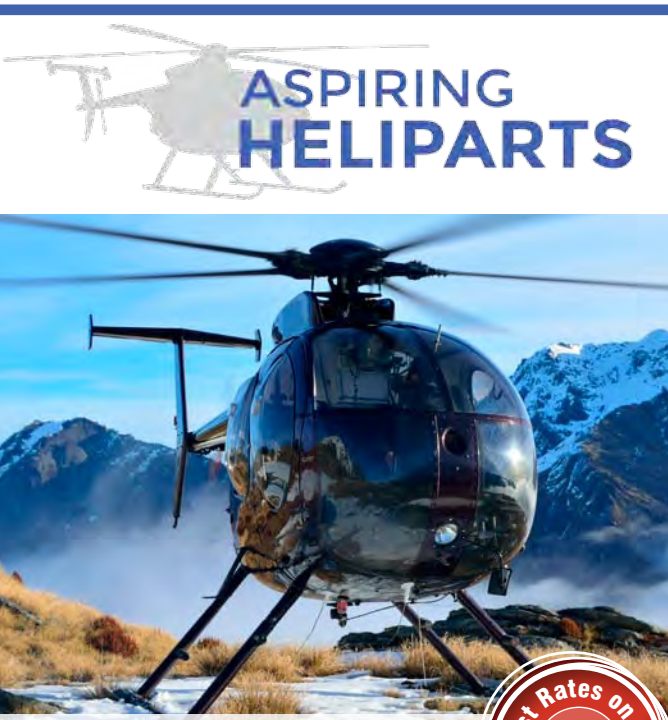
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Auckland-based Airwork Group is a global aviation provider with a unique ability to provide turnkey aviation services.

The various divisions that comprise the Airwork Group offer a full complement of aviation services, which includes helicopter and fixed-wing flight operations, aircraft engineering, maintenance, repair and overhaul (MRO) services, sales, and aircraft leasing.

"We are focused in three distinct areas of industry," said Claude Alviani, Group strategy and business development manager. "The first being fixed-wing airline operations and leasing with our Boeing 737 and Boeing 757 aircraft. The second is providing helicopter operations, leasing and sales, and the third involves the range of maintenance, repair and overhaul services, as well as modifications and upgrades predominantly for helicopters, but also for fixed-wing."

Airwork was founded in Wellington, New Zealand, in 1936 and over the years since, it has continually evolved to meet the changing needs of its customers and to equip its staff to keep pace with technology.

"We believe that New Zealand has one of the oldest and most diverse aviation traditions," said Alviani. "This tradition was borne out of dealing with the country's varying topography, its isolation from the rest of the world, and its dependence on land-based economic activities."

"Since our inception, we've developed industry-leading capabilities that we think sets us apart from other aviation operators. In addition to our helicopter and fixed-wing operations, we are proud of the broad range of aviation support services that our body of highly skilled aviation professionals provides. We are recognised for these world class services, holding Service Centre approvals with Airbus, Honeywell, Kawasaki, Breeze Eastern, and we are a licensed distributor for a range of other aviation products from Honeywell, Genesys and Dart to mention a few."

Another core strength at Airwork is the inventory management component of its robust supply chain and aviation supplier networks. This is a critical function of the business because its customer base spans the world: North and South America, Europe, Southeast Asia, Africa, Australia and New Zealand.

The company also maintains an extensive range of dynamic component overhaul capabilities for a wide range of helicopter

types. Moreover, the turbine workshop can perform Hot Section Inspections (HSIs), providing repair and overhaul services for a number of engine types, and the Honeywell engine test cell enables engines to be tested, providing performance data on service repairs for customers.

The in-house avionics overhaul, instrument repair and inspection engineers and the design and manufacturing teams work closely with customers to develop specific modifications and supplemental type certificates (STCs) that provide increased performance and extended operational capabilities for the customers.

It is this range of in-house capabilities that led Airwork down the path of looking at upgrading the BK117 helicopter as a world-leading, specialty product. User organisations have an increasing desire for helicopter modifications that provide distinct safety advantages to the conduct of their flight operations.

Excellent examples of how technology has made aviation safer are visible in flight deck systems designed to help pilots avoid safety problems more common in the past, such as controlled-flight-into-terrain (CFIT) and collisions with other aircraft in flight.

Terrain awareness and warning systems and synthetic vision systems that improve a pilot's understanding of the flight environment, were made possible following the advent of digital instrument displays and GPS, which have helped to dramatically reduce CFIT accidents.

"Similarly, airborne collision avoidance systems (ACAS) have helped to reduce the incidence of mid-air collisions between aircraft by actively monitoring the airspace around an aircraft to improve a pilot's awareness and avoidance of conflicting traffic in the vicinity," said Alviani.

"The BK117 Evolution, as we call it, comes about from our desire to serve those end users. To begin with, we sought to increase the engine power to meet Category 'A' performance and the Honeywell LTS101-850 engine modification was born."

Airwork is the holder of the STC for this significant aircraft performance and safety improvement for the BK117-B2, with more than 50 aircraft modified to date.

However, the upgraded engine was just the beginning. "We also wanted to defend those engines against their operating environment," said Alviani. "So we developed the BK117 particle separator."

In addition to this, the lightweight, nine-seat configuration enables quick change in roles between internal cargo and passenger operations. The re-engined BK117 Evolution has been identified as a great light twin aircraft for human external cargo (HEC) operators looking to upgrade from a single to the twin engine PC1 safety it provides.

Airwork is currently developing a dual hook system that will be available to HEC operators in the near future that will dramatically improve the safety of external load operations involving high value loads or construction efforts requiring the support of people on the ground.

Airwork's modification offerings incorporated in the BK117 Evolution make for a long list. The glass cockpit offers 3D Synthetic Vision EFIS to enhance safety, reduce pilot workload, increase flexibility and lower the cost of operation.

"We believe the BK117 Evolution provides equivalent safety to new aircraft systems and the airframe remanufacturing program and PC1 performance enables this aircraft and crews to maintain the rigorous standards of safety sought by user organisations involved in day/night offshore transfer and HEMS [helicopter emergency medical services] operations."

"Our Airwork mods allow the operator to comply with VFR [visual flight rules] and IFR [instrument flight rules] performance-based navigation requirements, which are currently being implemented around the world," added Alviani.

"Future modifications to provide vibration health monitoring (VHM) and flight data monitoring (FDM) are in the works," he said.

The Airwork BK117 Evolution is a refurbished aircraft. With engines that now provide PC1 performance, and an avionics suite equivalent to new generation aircraft, it's a global winner from a long-established aviation leader.

"Worldwide, I would say there isn't another helicopter and modification organisation that is able to support a helicopter modification program like the BK117 Evolution, the way we do," said Alviani.


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“Since our inception, we’ve developed industry-leading capabilities that we think sets us apart from other aviation operators.

— Claude Alviani, Group strategy and business development manager



Rotor blades flying out of Oceania's repair division



Composite Structures Division Manager for Oceania Aviation, Jeremy Davies inspecting a rotor blade for repair.

Back in 2011, Oceania Aviation developed a purpose built rotor blade repair facility in a vacant hangar at Ardmore. Some onlookers wondered where the demand for such a significant investment was going to come from, but Oceania's Directors were confident. Their confidence has been well proven now. The facility is full of work that arrives from Australia, the Pacific, and locally. The original team of two is now four, led by Composite Structures Division Manager Jeremy Davies who says he will soon be on the lookout for a new trainee to help with a continuously increasing workload.

Leveraging from a long term relationship with Advanced Composite Structures (ACS) in Canada whom the company has a technical and training agreement with, Jeremy and his team can offer a large range of composite and metal structure repair schemes – often beyond the expectations of clients. That's particularly the case with 'expanded

repair schemes' where blade damage and repair isn't already covered by a suitably documented process. Jeremy says they can look at all possibilities to repair blades and have processes in place to seek expanded repair scheme design and approval from international specialist qualified persons.

The in-house facilities at Oceania's Composite Structures Division are extensive and include many jigs and fixtures that are unique in New Zealand. A filtered preparation room provides for cleaning and sanding processes prior to paint application which takes place in a dedicated 10m long downdraught spray booth. Alongside the spray booth is a separate structural bonding clean room with controlled (and continuously monitored/recorded) temperature and humidity. A suite of specialist bonding fixtures as well as electronically controlled multi-heater blankets for structural adhesive thermo-setting are all in near permanent use. Next to the clean room

is an area designated for electronic rotor blade balancing of sufficient quality that re-installed blades often require negligible adjustment at the time of dynamic balancing.

When the facility was opened six years ago the intention was to be sufficiently equipped for common repairs such that work could be completed in the time it would normally take to crate and transport blades from and back to New Zealand. That goal was achieved very early on, and now the team's capability and efficiency is such that blades for overseas clients arrive on a weekly basis. They frequently now process 25 or more sets of blades through the shop at any one time.

Interest from the Asia Pacific region has been boosted in the last year by EASA certification of Oceania's blade, component and turbine divisions which can now issue EASA Part 145 Authorised Release Certificates (Form Ones) after the completion of maintenance services. These are recognised internationally and accepted by many Civil Aviation Authorities and regulators around the world.

Common blade types under repair include Sikorsky, Airbus, MD, BK117, BO105 and Van Horn.

Capabilities include repair and replacement of worn, damaged or unserviceable parts, corrosion rectification, debonding and void solutions, and more.

For more information

For further information contact Jeremy Davies on 09 296 2644 or email: jeremy.davies@oal.nz

Talk Cargo - It's what we do

Founded in 2012 with 'a passion to provide the very best tailored freight solutions', Talkcargo quickly grew with their own fully owned operational bases now in Australia, New Zealand and the United Kingdom. In addition to this a service centre is being created in India with a view of further expansion towards opportunities in Asia.

The company is managed by Paul King and Aubrey Inston, Aubrey being Auckland-based and focused on aviation logistics particularly in the specialty area of helicopter parts and aircraft.

Both Paul and Aubrey have long term involvements at senior levels in the aviation and logistics industries. The pair have a wealth of related experience and fully understand the various nuances of the aviation industry, and the care and timeliness required when moving parts and aircraft around the globe.

A member of global network the Aerospace Logistics Group, Talkcargo can leverage the services of numerous other worldwide members of this group which was accredited by the Global Institute of Logistics in 2017 as "the Global Best in Class Aerospace Freight Forwarding Network". Members of the ALG are independent companies who combine to provide a seamless service to fulfil the needs of aerospace companies worldwide. At time of writing, Aubrey has just returned from the annual ALG conference, this year held in Capetown. Services across the network include:

- 24-hour AOG service at all stations.
- Import and export customs clearance.
- Domestic and international air freight including hand-carried if required.
- International Sea freight.
- Domestic distribution and specialist courier services.

Talkcargo's approach extends a long way past generic services however. Aubrey says their strengths are in their aviation competencies, especially regarding aircraft engines, rotor blades, and other high value parts logistics.

The word 'partnership' comes up frequently in conversation - particularly when discussing opportunities for importing aviation maintenance/repair work into New Zealand. Aubrey says that if a NZ company has a particular strength they can market overseas then Talkcargo



The team at work including hands-on (the ladder) support by Aubrey.



Rotor blades on their way to the airport.

can partner with them to ensure all freight requirements are efficiently managed on behalf of their overseas clients and themselves. "Some people would think it's too hard to conduct their business internationally because of the logistics," says Aubrey, "but we can make it seem like they are dealing with a local company."

Evidence of Talkcargo's can-do approach comes in the form of numerous unsolicited testimonials - often direct from a customer to a third party. Such was the case between Oceania Aviation and one of their blade shop customers in Australia recently. The literal email conversation: "(Customer) I get quite annoyed at the incompetence of some people in these freight companies to try and think outside the box sometimes, and give you all the information you need." (Jeremy Davies from Oceania Aviation) I know how you feel! I have copied Natasha from Talkcargo to see if she can help you. Tash is very good at this kind of thing... she fixes my shipping problems all the time!" And yes, the difficulty being

encountered with a non-aviation specialist freight company was quickly resolved. Oceania's Jonathan Bowen describes their recently developing relationship with Talkcargo as very effective; "Aubrey handles things and [in the case of temporary imports] makes it seem like there are no borders for us."

Another example of can-do logistics recently involved temperature controlled adhesives personally delivered on weekends in order to meet particular handling requirements.

Talkcargo also have plenty of experience moving complete aircraft, notably helicopters which are of course more common international travellers. Aubrey speaks of recently managing several aircraft through Auckland Port delays, working hard to gain priority and also to achieve cost reductions for their clients.

In Aubrey's words, the company name says it all "if you need to talk cargo, it's what we do. Succeeding with challenges is at the forefront of all our business". Contact Aubrey on 021 595 608 or email: Aubrey@talkcargo.aero

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www.oceania-aviation.com



Oceania Aviation appointed as Bell CSF



There are 118 Bell helicopters on the NZ register. Pictured is the latest Bell 505 Jet Ranger X.

On Friday 23rd November, Oceania Aviation hosted a launch party at their Ardmore base to celebrate their newly appointed status as a new (and the only) Bell Customer Service Facility in New Zealand. Bell owners, operators and other guests from throughout the country were greeted with a visual feast on the helipads in front of the Oceania hangar. On show were two Bell 429s, a Bell 427, Bell 505 Jet Ranger X, and a Bell 206L Long Ranger. Inside the hangar were caterers and tables full of gourmet nibbles.

Oceania Aviation's Commercial Manager MRO, Peter Hatley welcomed attendees with appreciation and enthusiasm. Peter spoke of Oceania's desire to provide exceptional service with the new Bell partnership now providing a platform to take their Bell customer support to the next level. In asking and answering the question of motivation Peter talked about a desire to provide 'safe



L-R: Peter Empson, Chris Schaefer, Damien Dew, Peter Hatley, Michelle Bush, Dan McQuestin, Alex Spence.

and simple flight', safety being a given and simplicity coming from the Service Centre being a one stop shop with local resources and stock supported directly by the wider Bell network.

Bell Executives at the event included Sydney based Business Development Manager Dan McQuestin and Singapore based Asia Pacific General Manager Chris Schaefer who spoke in support of the New Zealand market and Oceania Aviation partnership. Familiar to locals but also Sydney based, Bell Customer Service Engineer Peter Empson also attended the event on behalf of Bell.

Additionally showing support were Damien Dew from Heliwest Group (one of five Bell Customer Service Facilities in Australia), as well as Alex Spence from

Sikorsky Helitech.

Oceania's new Bell CSF can only benefit the growing number of Bell helicopter owners and operators in this country. As Peter Hatley concluded in his presentation, "this will not only be a great partnership with Bell but will be great for helicopter aviation in New Zealand."

The new Bell partnership now complements Oceania Aviation's other Service Centre partnerships with world leading manufacturers including MD Helicopters, Schweizer RSG, and Cessna.

For more information

Contact Oceania Aviation's Commercial Manager MRO, Peter Hatley on 027 673 0590 or peter.hatley@oal.nz www.oceania-aviation.com

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Central Aero Engineering moves to larger premises at Hamilton

When your mantra is 'Here to help', you're near certain to enjoy a lot of variety in the work that comes through the door. Central Aero Engineering's hangar at Hamilton Airport is often packed full of interesting projects alongside the usual scheduled maintenance requirements of many aircraft in the company's care.

Paul Waterhouse and his team at Central Aero are pleased to announce that their current space restrictions are soon to be alleviated. They and neighbours Central Aero Electrical have just moved down the road to the Super Air site, whose vacant hangar they are now leasing a substantial part of. This will provide Central Aero with around 50% more space than currently.

As well as expanding their hangarage, a new team member, Craig Thomas, is about to join the company. Craig's skill set includes fitting and tool making - very useful for fabrication work.

The other mantra at Central Aero is 'Delivering fair value'. It's an approach that draws commercial and private operators, and a regular stream of home builders and microlight aircraft owners needing guidance from time to time on projects or their own routine

maintenance. "We'll always try to help," says Paul. "If you own it, or fly it, no matter what it is, from hot air balloons, to twins and helicopters, piston engines and turbines, give us a call for any advice or support you need."

Services and Capabilities

Central Aero services cover everything from pre-purchase inspections worldwide, shipping handling, CoA preparation and issue, airworthiness reviews, maintenance, repair and restoration of all flying machines, 24 month avionics checks, dynamic prop balancing, weight and balance services, maintenance control for private and air transport operators, accident and incident investigation, parts and materials supply, and builder support.

Paul is also willing to provide support to trainee engineers sitting their exams, particularly from the point of view of covering legislation and how 'proper' logbook entries should be made. "We've helped several candidates now from a practical viewpoint to explain more about what is being achieved with correct logbook completion and what they should be looking for," says Paul.

Recently in the hangar

Aside from a variety of routine maintenance and Certificate of Airworthiness tasks, a recent hangar departure has been a long term BO105 project. This helicopter arrived ex the U.K. with an expectation of being assembled and flown. Numerous issues were identified however, ultimately resulting in main rotor transmission and engine removals and associated maintenance.

Paul says a lot of work has been done this year on ag. aircraft for Super Air after they closed most of their own engineering shop operations a year ago.

A regular stream of Rotax jobs have come through the hangar, recently including a turbo replacement on a 914 and cylinder head replacement plus gearbox work on a 912.

Unpowered aircraft also feature, with regular checks and maintenance tasks being carried out on several gliders and balloons on the company's books.

For more information

Contact Paul on: 07 843 1200, 021 743 033, email: paul@centralaero.nz or visit www.centralaero.nz



Ag plane, helicopter and LSA make for a typical day.



Long term BO105 project near completion.



Room for the little ones too: A Mosquito helicopter.



Paul Waterhouse checking a recently maintained PT6.

Everything Electrical at Central Aero

Alongside, but independent of Central Aero Engineering, is Central Aero Electrical Limited. Along with Central Aero Engineering, Central Aero Electrical has also moved down the road to a much larger workshop in the Super Air hangar.

Martin Ross who founded the company in 2008 says that many changes have occurred in the last year. Firstly is a new CEO, Hamish Ross. Hamish is a LAME who has several years of aircraft servicing experience and 'learning the ropes' of repair and overhaul of electrical components, including mechanical actuators and 'running a company with emphasis on service'.

Hamish has led Central Aero Electrical through SMS certification and expanded their capabilities especially on starter generator overhauls from 150 to 400 amp models of three main manufacturers, by utilising his overseas experience to develop business relationships with many overseas companies. Martin says that "a lot has been achieved through these relationships regarding improving workshop practices and quality systems. Our Safety Officer, Zoran Djordjic has also contributed much to our SMS programme and ensuring best practices, not only on paper but also in practice."

Talking about the variety of work evident on workbenches, Martin adds, "we're handy people - we're good at twisting our minds around unusual problems and designs". There are many occasions on the books where components that might normally have been replaced, have instead been repaired (at considerable cost saving), delivering satisfaction to the Central Aero team and also the customer. And when they don't already have an answer, the team's connections can usually help. Friends in the right places were recently engaged to visit a Romanian factory to acquire specialist information on a Russian radial magneto.

Central Aero Electrical has a comprehensive range of diagnostic equipment and a large test bench that will handle up to 12 cylinder magnetos. Capabilities cover a good range of starter/

generator, control unit rectification and overhaul work, along with 500 hour magneto inspections (usually completed with a one to two day turnaround). Mechanical actuator overhauls for various rotary and fixed wing types are also a regular job. Lately a lot of starter/generator work has passed through the business, from helicopters through to Saab 340s. Dimmer control and EPO box (engine power out) test equipment is also to hand.

Numerous exchange items are available, and Central Aero Electrical also stock a variety of parts for re-sale including starters, batteries, alternators, strobe units, starter/generators, GCUs, voltage regulators, ignition switches, and HT ignition harnesses. In many cases the company is able to deal directly with a component supplier, thus bypassing the aircraft manufacturer's mark-up which they are happy to pass on as a saving to the customer.

Contact Central Aero Electrical on 07 843 2937, Hamish on 027 493 9975, Martin on 027 733 0208, or email: centralaeroelectrical@gmail.com. Their new courier address is Central Aero Electrical Limited, Ingram Road, Hamilton Airport.


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Decades of Experience and a Full Range of Engineering Services at Southair

Located at Otago's Taieri Airport, Southair has been maintaining, rebuilding and restoring aircraft since 1964. More than 50 years of history and growth have resulted in an aircraft maintenance organisation that not only embraces latest technologies but also retains traditional aircraft engineering skills.

The company is steeped with history. In the beginning, customers flew fabric covered Piper crop dusters. Nowadays Southair maintains numerous turbine-powered agricultural and passenger planes, as well as a wide range of GA aircraft. An extensive catalogue of fixed and rotary wing services are offered from fabric work through to engine overhaul.

Southair's team of nine engineering/admin staff count more than 170 years of aircraft maintenance experience between them. With such loyalty, they are capable of achieving a wide variety of tasks in regards to all aviation issues.

Southair Services and Capabilities

Southair's extensive capability list covers ratings for Airframe Group 1, 2, 3, 4 and 7; Rotorcraft Group 1 and 2; Powerplant Group 1, 2, 3 (Allison A250, Pratt & Whitney PT6, Walter/GE M601), and Group 7 (Fixed Pitch Propeller). The Engine Shop staff are specialists in Lycoming, Continental, Gipsy, and Rotax engines and components.

As well as covering nearly everything to do with General Aviation, services include vintage aircraft restoration, full repaints (in a purpose built, heated, 13x13m paint shop), aircraft salvage and repair, engine and components overhaul, NDT, corrosion work, propeller dynamic balancing, pre-purchase inspections, ARAs and more. They have also purchased an Olympus Iplex 2 Borescope for inspecting those hard to get places. Everything from minor repairs, to support for amateur builders, to complex restorations of antique aircraft can be accommodated.

A large stock of parts are maintained, including legacy Cessna and Piper stock.

Pre-purchase inspections by licensed engineers can be arranged, and a full maintenance control service is available.

For more information

General Manager Graeme Daniell says that whatever work you need done, Southair can do it and to the highest of standards. Whether you fly a Tiger or a Turbine, Southair would welcome the privilege of looking after your aircraft and undertake to treat it as if it were their own.

Contact Graeme on 027 307 5850, email: graeme@southair.co.nz or visit www.southair.co.nz



A pair of Piper Navajo Chieftains on the apron at Southair.

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‘Everything starts from the battery’

Aviation Ni-Cad Services reaches 35 years in business

Founded by Clive Dixon in 1983, Aviation Ni-Cad Services Ltd. provides “top-of-the-line” Ni-Cad battery servicing from their Ardmore premises. That equates to 35 years in business, although Clive has in fact worked on the airfield continuously now for 40 years, originally as an employee of Motor Holdings and then Marine Helicopters.

Aviation Ni-Cad Services was an early adopter of SMS and in 2017 was certificated under the SMS regulations which says Clive, “a challenging and successful process helped by an experienced and competent local consultant, and an accommodating CAA team.”

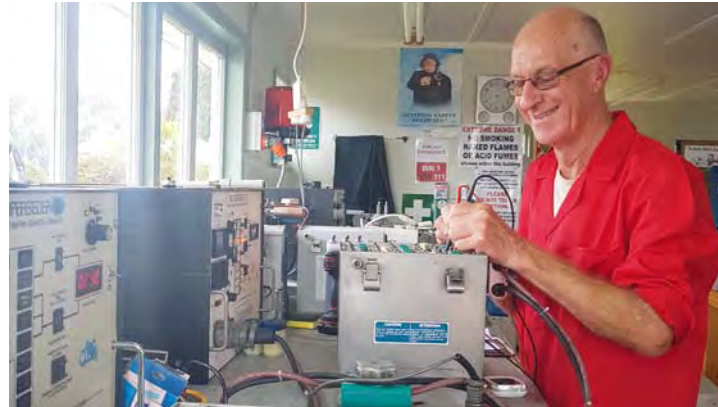
Battery/Aircraft Safety

With any aircraft, be it rotary or fixed-wing, *‘everything starts from the battery’*.

Battery safety management is important for “all types of batteries”. Clive says, “Unless you are on a beach with the tide coming in or in an Extreme Emergency situation, ‘never start an aircraft with a flat battery using a GPU then fly unless it is absolutely necessary. You must then get the battery to a battery shop to be serviced.’”

Clive says that if during or after pre-flight you find the ‘battery is dead’, don’t start the aircraft with a GPU and fly away thinking that the generator/alternator will charge it during the flight because:

1. It may not, especially if the battery has been deeply discharged.
2. It can happen that some cells will charge and others may not. These cells could get very hot and this could cause a thermal runaway of both Lead-Acid or a Ni-Cad battery.
3. **A battery is only certificated serviceable when it is fully charged.** Should you carry out a GPU start then fly IFR or go night flying and the aircraft generator/alternator fails, there may not be enough power in the battery to drive vital instrumentation and flight controls, etc. in order to land safely.
4. With incorrect procedures, all batteries are potentially explosive - and there have been several instances before in NZ. So be Battery Wise and Beware.



Clive Dixon in his workshop at Ardmore

Care and Experience

Aviation Ni-Cad Services are Specialists. They do nothing else but Service Batteries, using the latest technology Charger/Analysers in their workshop at Ardmore. These are capable of safely charging and discharging batteries whilst also monitoring current, voltage and battery temperature.

“There are significant operational and financial benefits in specialising and doing the best job first time,” says Clive, “and we’re happy to provide the advice and services to ensure that operators achieve them.”

Aviation Ni-Cad Services hold a number of loan units of the most commonly used Ni-Cad batteries operating in New Zealand, for customer use when their batteries are being serviced.

For more information

Aviation Ni-Cad Services offer years of experience, knowledge and hold a large range of new cells, plus hardware temperature sensors, etc. are also available. If you want to upgrade or keep your battery in the best condition possible, then take or send it to Aviation Ni-Cad Services at 125 Harvard Lane, Ardmore Airfield, Papakura 2582. Contact Clive Dixon on 09 299 7133, fax 09 299 7743, or by email to: aviation.nicadnz@gmail.com



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Thriving on Projects and more

Jay McIntyre writes of another busy year for JEM Aviation at Omarka

2018 has been another busy year for JEM Aviation but the speed at which it has gone by has left little time for reflection and down time.

The GA side of the business is thriving with a never-ending procession of aircraft through the doors for annuals and repairs as needed. Late in 2017, Kyle Sinclair joined the team and took on the task of looking after the annuals on a day to day basis. He proved to be a great asset and was able to share some different perspectives on maintenance from his GA maintenance background in England.

Similarly, we were able to show him a thing or two! He was quite blown away by the sheer number of types, the pace of work and the diversity of work undertaken so it was with much reluctance that he advised he was returning to the 'Old Country' to take over the maintenance business he had worked at prior to coming to New Zealand. A shame, as he was a real asset!

Through an arrangement with the now 'retired' Lester Hope, JEM Aviation has been in the process of training up to carry out 24-month avionic tests in-house. Scott Tudor who has a bit of a natural electronics bent has been working alongside Lester for the past six months learning the many tricks that Lester has gained after many decades in the industry – thankfully he hasn't quite retired, as our plans to take over have not matured as quickly as we might have thought.

On the avionics front we are starting to see more and more interest in the digital side of things with customers choosing to eliminate traditional vacuum operated instruments when they need repair, as they see value in fitting units such as the Garmin G5 instead of spending big dollars to repair the old gear. It is very interesting fitting all this new equipment as there are so many options (and ultimately fish hooks) that it is near impossible to know it all. We suggest to our customers that they conduct as much as they can of the pre-purchase investigation into what they want so they can better understand the limitations/issues. Along the way we integrate their desires into the aircraft's specifications and alert them to any issues, often as simple



Stearman STM refurbishment.



FW 190 repairs underway.



Piper Tomahawk FML in the spray booth ready for accents.



Harvard XSA in for an engine change.

as there being no STC available for their aircraft model.

Of course, with ADSB looming, we are getting more and more requests for information on installation but to date no one has been keen to take the plunge. Along with others in the industry we have been advocating for a change to AC43-14 to allow easy installation of these units and we might finally have this across the line with a Garmin unit currently being installed in a Stearman under a trial situation.

Many Projects

On the projects front, things have been busy as usual, and the sheer size of these jobs generally has one man tied up full time to keep these progressing. This year saw the completion of the Comper Swift test flying and sadly its return to Australia. Mid-year finally saw the completion of repairs to Geoff Van Asch's Murphy Rebel. After a long wait, the overhauled engine for Harvard ZK-XSA was also received and installed just prior to departure for Reno – a lot of titivation of the airframe was carried out by the owners during the wait so she is looking very nice!

Out of the blue, we received authorisation to get the FW 190 repaired and flying in time for Classic Fighters 2019. We had been just about to pick up where we had left off with the Yak-9V project but had to divert Dick Veale onto the 190, something which he has been fastidiously working away at since May. She is coming together, but the replacement of undercarriage components has been somewhat challenging.

Speaking of the Yak-9V, we are just in the process of having design work completed by Graham Murphy on our fuselage and engine mount modifications with a view to having the engine mount fabricated and installed complete with engine and prop for Classic Fighters 2019. Other projects progressing along in the background include the WACO UOC (with RV builder of note Rex Newman at the helm), Fairchild F45 and Bucker Jungmann, all vying for attention at any one time.

At the forefront currently is a complete repaint and refurb of well-known PA-38

ZK-FML. JEM Aviation are pleased to be assisting the Walsh Aviation Support Society Inc. in this endeavour and the intention is to have the revitalised machine ready before Christmas so she can make her grand entrance at the Walsh Memorial in mid-January. Receiving much attention alongside FML is well-known Stearman ZK-STM. For some time, current owner Bruce Govenlock had been trying to get the fuselage re-bagged and out of the blue the stars aligned, and she was delivered in July. As usual, the job got a bit bigger than originally intended, but she is progressing along nicely. Lastly, but certainly not least, a Bristol Fighter replica to be based at Ardmore is progressing slowly, when recently flown DC-3 ZK-JGB is not receiving attention.

Maintenance Shop of the Year

To cap it all off, JEM Aviation was thrilled to receive the 2018 AOPA 'Maintenance Shop of the Year award'. This was very much appreciated and vindicated the team's approach to customer service and precision repair and maintenance, although funnily enough we did not get our hands on the trophy until a certain local AOPA Committee member had his freshly rebuilt aeroplane back in his hangar!

Onwards and upwards for 2019!

Jay McIntyre

For more information


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Wide Ranging Maintenance at Tauranga



Mostly containing light sport aircraft and autogyros for this photo, Solo Wings hangar also sees everything from vintage aircraft through to jets such as the local L-39.

Solo Wings was founded as a small business 19 years ago at Tauranga Airport by Colin Alexander. Colin's goal was to offer a professional maintenance service to owners of microlight aircraft at a time when the technology and complexity (and popularity) of this category was just beginning to develop. Since then, the microlight and recreational flying scene has grown significantly, as has Solo Wings who now provide all manner of services to microlight, experimental, amateur-built, and GA aircraft owners. The Solo Wings team rightly attribute at least some of their company's success to a willingness to take on the jobs that others are shy of, and indeed take pride in "going the extra mile on anything more difficult or obscure".

Aircraft under the Solo Wings umbrella of care include everything from early rag and tube microlights, vintage wood and fabric aircraft, through to carbon-fibre sport planes with glass cockpits, autogyros, and experimental category aircraft such as an

Albatros L-39 jet. The company also looks after numerous amateur-built and GA aircraft.

Solo Wings are factory appointed as a Service Centre for many of the major recreational aviation brands, such as Tecnam, Pipistrel, Viper, Auto-Gyro Europe, Rotax, Airmaster, and more. Colin says they enjoy direct access to the manufacturers' technical people, many of whom they have personally met on factory training courses and visits. In the case of Rotax, Solo Wings are the only New Zealand maintenance provider approved by the factory as a Rotax sales, maintenance and overhaul facility.

Colin is quick to emphasise that the company wouldn't be where it is without a great team, who enjoy strong support from Colin in regards to ongoing training and skills development.

General Maintenance and SAMMS

Solo Wings have all the bases covered for professional light

aircraft maintenance. They can carry out composites work on fibreglass or carbon fibre, as well as undertake wood, fabric and metal work from minor repairs to major fabrication. Weight and balance, and dynamic prop balancing equipment is all to hand.

A separate clean-room contains an engine shop and although Rotax overhauls are a dominant part of the business, other types (including radial) are welcome.

Maintenance requirements for all aircraft under Solo Wings care are kept track of via SAMMS, an online software tool (developed in-house) dubbed the Safer Aircraft Maintenance Management System. Solo Wings engineers use permanently-online tablets for managing checks, time studies, stock maintenance, due list updating, tasks per plane, and more. The system is fully automated to create Loose-Leaf-Log-Entries on job completion and is also available online to customers, to assist with their maintenance control and to eliminate due date or work scope surprises.

Plenty of variety in this hangar

There's no shortage of variety in the work passing through Solo Wings' hangar doors. Work in progress at the moment includes a C206 getting a birthday and new engine, maintenance on a Socata Tampico, the local Gliding Club Cub, three Tecnams including

a P2008, five autogyros of various types including one for rebuild, and more. A new first of type Pipistrel has just arrived for certification, as has a Socata Trinidad from Australia. Solo Wings have also been caring for the newest sport helicopter to arrive in New Zealand, the Ardmore based Dynali H3.

Recovery and Rebuilds

Solo Wings offer a complete service for recovery, assessment and rebuild of damaged aircraft for insurance companies and private owners who have had a bad day and need someone to put everything right again. The company also becomes involved in accident investigation when required.

Import and Certification Processing

With the Port of Tauranga just down the road, Solo Wings are ideally placed to provide import and export services, and handle dozens of such projects every year. The company is fully MPI approved for containerisation work and can easily attend to all incoming certification and paperwork requirements. As well as the certifications currently underway, an RV7 and Highlander have both been processed in the last two months.

For more information

If you need advice for recreational or other aircraft maintenance, aircraft importing, or support with an aviation project, give one of the team at Solo Wings a call on 07 574 7973, email: info@solowings.co.nz or visit www.solowings.co.nz. Solo Wings continues to grow. Qualified engineers interested in employment should also feel free to get in contact.

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Increase Pride and Reduce Maintenance

Streamline Protection's aircraft detailing pays its way

In New Zealand's harsh sun and salt climate, nearly every engineer or aircraft owner will have some kind of story to tell about corrosion. The story will usually be focused on the less than pleasant surprise not only of discovering it, but more so discovering what it would cost to fix. It begs the question of how then to avoid or at least mitigate such corrosion happening in the first place. Johan and Jaco Pienaar from Streamline Protection can help.

Streamline Protection are authorised (by distributor Corrosion Control NZ) applicators of CorrosionX and SealX products for the aviation industry. Based in Te Rapa near Hamilton Airport, they are of course very active at Hamilton Airport, plus Ardmore, Auckland and Tauranga, and are quite willing to travel for work, also making regular trips also to Napier and Nelson.

The Benefits of Protection

Aside from personal satisfaction, the obvious benefit of caring appropriately for an investment as significant as an aircraft, is the reward received at maintenance or resale time. Jaco sums the matter up with two words, pride and value.

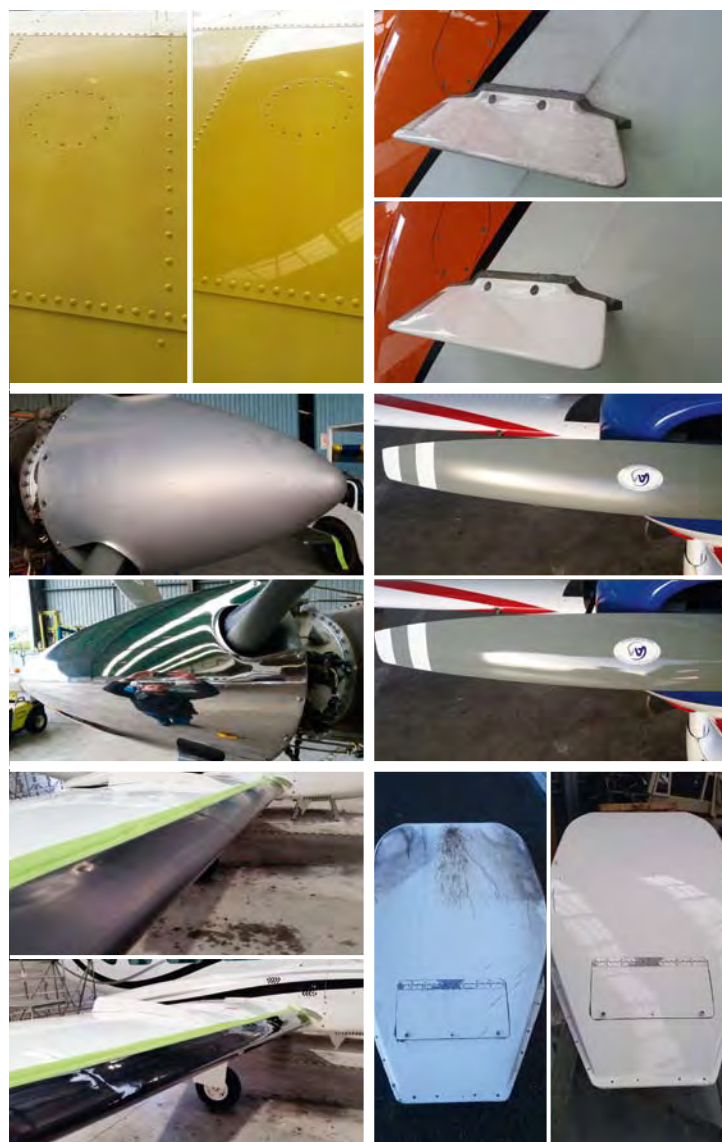
Corrosion is slow, invasive, and often hidden from normal view. Unbeknown to many owners, it is also encouraged by typical washing techniques due to soaps that are much too harsh for the application and water that is at unfavourable pH levels. Washing an aircraft requires a very different approach to washing a car or truck, as unsuitable water and soap quickly finds its way into corners and sits between skin laps – and corrodes.

Jaco says the best solution is to use a dry wash product such as Aero-Glide for all normal aircraft cleaning in between annual treatments with products such as CorrosionX and SealX. There is consistent evidence that anyone switching to such a regime will find benefits soon becoming apparent.

One such example comes from Avia Air who operate a twin-engined Piper Navajo on charter services out of Hamilton Airport. Owner Stephanie Coffey says that prior to engaging Streamline Protection to undertake annual cleaning and protective work on the aircraft (four years ago now), she and maintenance providers Hamilton Aero had been battling corrosion issues every year. The only thing she now does to the aircraft between Jaco's visits is to clean with Aero-Glide and a soft cloth. The aircraft never sees a hose or bucket of water. "The coatings Jaco applies are the bees' knees," says Stephanie. "The treatments work and save me time and maintenance dollars. I was spending thousands on corrosion management and it's much smarter to avoid it in the first place. Exhaust stains just wipe off and so do the black fretting marks around linkages. People at airports have asked me what I use to clean it with. The engineers are happy that no-one is hosing around the oleos and seals too."

Jaco and Johan have many other charter clients and also provide an annual care programme for some of Garden City Aviation's fleet when they are located in Hamilton for maintenance checks.

It's not only paint that gets refurbished and protected. Jaco also maintains Perspex windows and screens (particularly on helicopters) with aviation grade products and care, often performing small miracles of scratch removal and clarity enhancement.



Plenty of pride evident here in recent work undertaken by Streamline Protection.

Professional Application

Most of the products used by Streamline Protection can be purchased directly from them, Aero-Glide dry wash being particularly suitable for regular use by those caring for their own aircraft.

Johan says that depending on the starting condition, a full annual interior and exterior clean, cut, polish, and sealer application can take a couple of 'man' days on an aircraft such as an R44, or perhaps up to six on something like a King Air. Such work can often be scheduled to coincide with maintenance requirements, particularly as some coatings do take time to cure.

When Streamline do the work, additional benefits arise in the form of their extensive experience with preparation, scratch and oxidation removal, plus boot refinishing, leather cleaning and treatment, and metal polishing. Bring your own sunglasses for when the job is finished.

Products

Streamline Protection have a variety of aviation-approved washes and coatings available in their armoury. In common use are:

Aero-Glide: Aero-Glide is a one-step dry wash, polish, and friction reducer. The term dry wash refers to the product being sprayed or wiped on, then wiped off. No water is necessary, although if there are abrasive compounds present then these should first be washed away. Aero-Glide removes light oxidation on most finishes, leaving a bright and lustrous shine, and providing three to four months protection against UV, exhaust soot and other grime. Aero-Glide meets numerous ASTM and Boeing airline certifications.

CorrosionX Aviation: Corrosion X takes corrosion control to a whole new level. Endorsed by Boeing and Airbus and in use by the RAAF and NZDF, CorrosionX Aviation is specially formulated to displace moisture, stop corrosion instantly and provide long-lasting protection. Safe for use around avionics and on all manner of surfaces, Corrosion X can be safely applied anywhere corrosion is or might appear.

SealX Sealant: 'So much more than shiny', SealX is a water-based polymer coating which offers long term protection against UV, grime, soot, salt, water stains, dust and pollution. The product works on all painted surfaces plus glass, plastics, leather and fabric. SealX has been laboratory tested in New Zealand and proven superior to competing products. The product can be wiped or sprayed on to pre-prepared surfaces following application instructions.

RejeX: RejeX is a polymer protective coating designed to seal surfaces against bug splats, exhaust stains (including turbine residue), bird droppings, oil, grease, and belly grime. RejeX will also make 'miliness' and light scratching on Plexiglass/Perspex/plastic windows almost invisible. RejeX is wiped on and allowed to dry to a haze for approximately 20 minutes. It is then wiped off and allowed to cure for 8-12 hours depending on humidity.

Xhaust and Soot Remover: Xhaust and Soot Remover is a concentrated cleaner/degreaser suitable for aircraft surfaces. The product 'cleans the toughest exhaust soot, belly grime and bug splats'. For use on metal, plastic and rubber, the biodegradable product is left wet on the surface for up to 30 minutes, then agitated if necessary and rinsed off with water.

About Streamline Protection

Streamline Protection is a family owned and operated company. Johan and Jaco Pienaar specialise in the protection and preservation of assets, Jaco focusing on aircraft and specialist vehicles, and Johan on property. Jaco has had a passion for aircraft since childhood and takes much satisfaction from his work. "The best part of the job is when a pilot or owner sees their freshly detailed aircraft and is delighted. It always happens!," says Jaco, adding that "pride and passion are guaranteed".

For more information

To find out about options for protecting your aircraft, contact Johan on 021 081 20614, email: info@streamlineprotection.co.nz or visit www.streamlineprotection.co.nz



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SAB Avionics at Wanaka

Seeking a new life in a new country, Steve Bunting moved from the UK to Wanaka at the end of 2005 and after converting his licences from UK to NZ he founded SAB Avionics Limited just in time for the 2006 Warbirds Over Wanaka Airshow. Job numbers one and two were biennial avionics inspections on a Hurricane and Spitfire - not a bad way to start out!

Steve trained in the Royal Air Force working on F4 Phantoms, Avro Vulcans and Tornado GR1s. After 13 years in the RAF, he then worked for British Aerospace in Saudi Arabia maintaining a Tornado training system fitted into two Jetstream 32s. On his return home he moved into the UK regional airline system, working at London City, Bristol and Birmingham Airports on a variety of aircraft including the Dash 7 and Dash 8, Embraer ERJ145 and the Avro RJ100.

SAB Avionics has grown steadily, increasing its customer base and capabilities, and today serves a large part of the lower South Island carrying out

avionic installations, upgrades, biennial inspections and defect rectification on everything from homebuilt aircraft to piston and turbine helicopters. Based in their hangar and working closely with Helisupport New Zealand (as their avionics support) they have developed a sound knowledge of Airbus helicopter products.

Steve says that Ross Hayman (who is a fully licenced and type-rated helicopter mechanical engineer) has recently started training to come over to the 'dark side' and become an avionics engineer - offering a sound mechanical background and with a great future in the avionics world.

Recent projects have included returning the local P-51D Mustang 'Dove of Peace' to a more original configuration, removing the onboard IFR systems, reverse engineering the electrical systems and installing an original instrument panel. Also just completed was preparation of two AS350B2s for operations in Antarctica with upgraded

comm's, HF installation and much more. Ross is accompanying them to 'The Ice'.

Steve says that looking to the future SAB Avionics is fully geared up for the coming ADS-B requirements and with only three years to the mandate he sees busy times ahead. They have dealerships for Appareo and Trig who are both leading manufacturers of ADS-B transponders.

They also have dealerships with many other leading avionics manufacturers including Avidyne, Aspen Avionics, FreeFlight Systems, Icom, PS Engineering and Spidertracks. Recently added to the list is Talos Avionics with their innovative EFIS display system for mobile devices.



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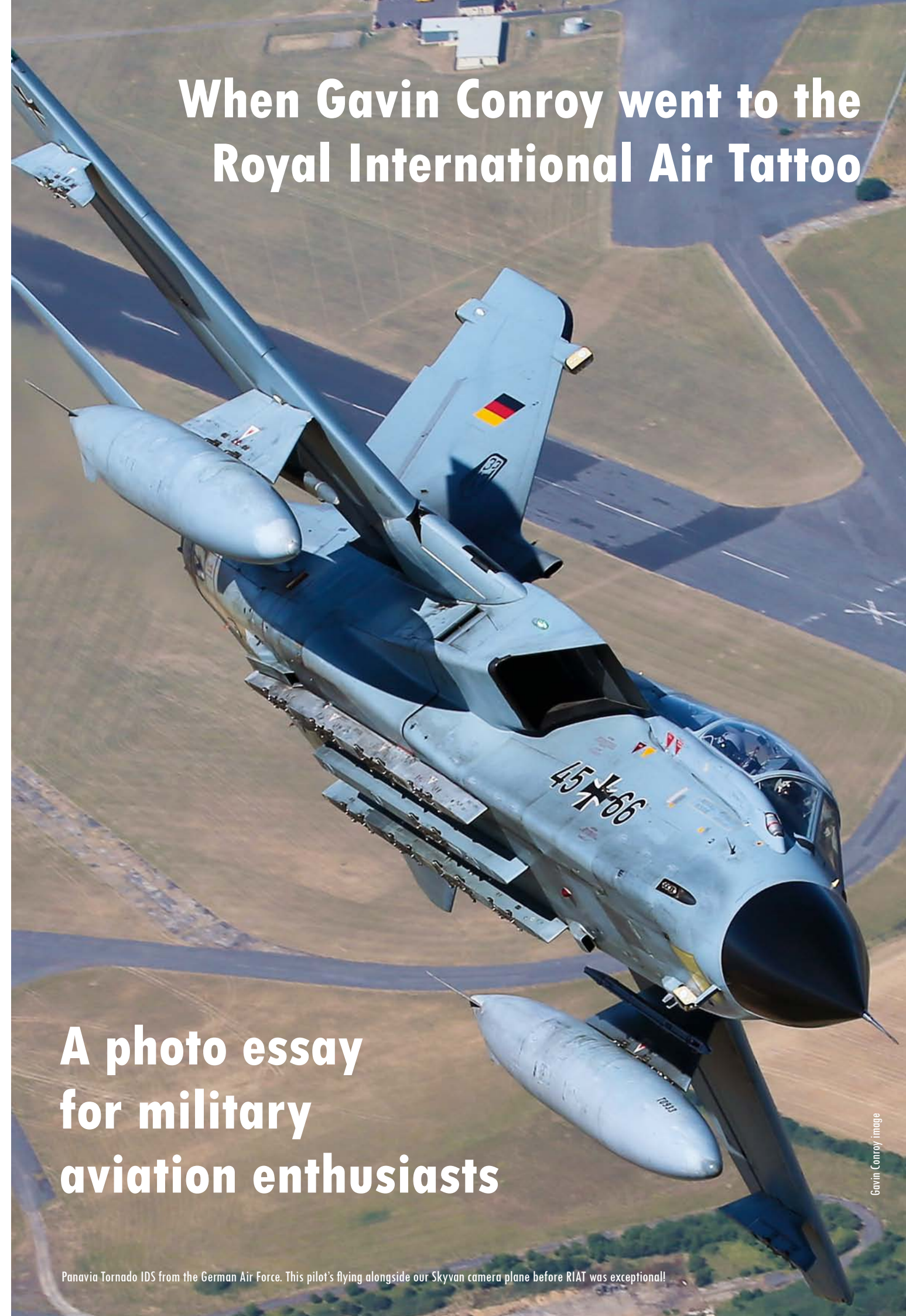
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When Gavin Conroy went to the Royal International Air Tattoo



**A photo essay
for military
aviation enthusiasts**

Panavia Tornado IDS from the German Air Force. This pilot's flying alongside our Skyvan camera plane before RIAT was exceptional!



The Royal Air Force Red Arrows need no introduction, it took some doing to get this photo!



Breguet Atlantique ATL2 from the French Navy. This is a rare aircraft to photograph and is leaving service soon.



The French Navy Dassault Rafale M.5. At the back you can see where the arrestor hook is attached.

As well as flying alongside numerous UK Warbirds during his trip away from NZ this year, Gavin Conroy also rejoined some colleagues to get airborne with the huge array of military aircraft assembling for the annual Royal International Air Tattoo. The result, as witnessed on these pages, is a collection of outstanding photographs from a rarely witnessed perspective. If only there was a spare 20 pages to fit more of them on. Gavin explains some highlights in the following:

This year I returned to England to carry on with some of the work started last year when a group of us flew with several aircraft on their way to the RIAT air show at RAF Fairford.

In the three days leading up to this year's show we flew for 16.5 hours and photographed 59 different military aircraft from various nations including, Greece, Poland, Germany, France, and Spain just to name a few.

This flying is quite complex; the subject aircraft are chosen from the extensive list of participants, squadrons are approached to see if they wish to take part and if so they join on our Skyvan camera plane on their way to the show. Depending on fuel and their individual time slots we would sometimes get 20-30 minutes with some subjects and 5-10 with others. We really need a lot to go right for this to work well.

We flew daily from Oxford airport which did give us a few headaches. It is very close to RAF Fairford which makes join ups easy and although we thought we had the best airfield to operate from this year it was at the same time as Donald Trump's UK visit. Half way through our flying he was visiting Blenheim Palace which is just down the road from Oxford airport so we faced some disruption - but all part of the job. In fact on one of the days the Airport Manager came over and said, "right boys just to let you know, if you are not back on the ground by 1630 today you will have Typhoons coming to meet you for a different reason".

Although it is nice to fly with jets I don't plan to take part in this event in the future; I prefer warbirds, so I spent quite a bit of time just enjoying the flying.

We had many highlights this year. The Skyvan has a max ramp down speed of 160 knots which can make it difficult to fly in formation with some of the

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A USAF McDonnell Douglas F-15C Eagle based at RAF Lakenheath.



Lockheed Martin F-16A MLU Fighting Falcon from the Royal Netherlands Air Force.



Lockheed Martin F-16B MLU Fighting Falcons from the Royal Danish Air Force.



Royal Norwegian Air Force two seat Lockheed Martin F-16BM Fighting Falcon.



A pair of Eurofighter F-2000A Typhoons from the Italian Air Force break away for RIAT. The sound was amazing - the Skyvan sure was shaking!

Gavin Conroy image

heavier fighters, however most made easy work of it.

A Luftwaffe pilot managed to formate on us in a Panavia Tornado which was impressive. We also had a USAF F-15C Eagle pilot from RAF Lakenheath who burnt most of his fuel, so he could fly in formation with flaps up which was beautiful.

We had more transport aircraft this year including from Norway and Jordan, and a beautifully presented Hercules from Pakistan. The Heavy award was a tie and goes to the crews of the Canadian C-17 and Embraer KC390 we flew with. They did a fantastic job flying close and offering several different angles.

Back on the fighter front the French Navy armed up three Rafale's just for the photo flight and we were able to fly with the newly painted solo demo Rafale, as well as three Mirage 2000D fighter/bombers from the French Air Force.

The Red Arrows joined us again and were even better than last year. Not to be outdone the Spanish Air Force flew their display team for us, and they fly the C-101 Aviojet which is getting quite rare.

Speaking of rarity, for me the appearance of the Gloster Meteor operated by Martin Baker to test modern day ejection seats was a real treat. I never went to the show itself - this flying was better than the show could ever be!

I hope you enjoy the photographs. This exercise is a lot of work with many 16 hour days in the lead up and during the flying. It was also a lot of fun. I learnt a lot and flew with some amazing jets: not a bad effort for a Kiwi from the other side of the world!

Gavin Conroy 



Eurofighter F-2000 from the German Air Force.



One of two NH Industries NH90 TTH we flew with from the Finland Air Force. The shutter speed here was 1/15.



The very capable Bell-Boeing CV-22B Osprey tilt rotor from the United States Air Force.



Boeing Chinook HC.4 from the Royal Air Force. Winner of the loudest chopper we flew with!



Italian Air Force Eurofighter F-2000A Typhoons.



Royal Norwegian Air Force F-16AM Fighting Falcons.



French Air Force Dassault Rafale C solo display aircraft.



Royal Netherlands Air Force F-16A Fighting Falcons.



Another Eurofighter F-2000A Typhoon from the Italian Air Force, this was the solo demo at RIAT.



Three Saab JAS-39C Gripens formed up for a few minutes.



Saab JAS-39C Gripens in profile.



Italian Air Force Typhoon pair head-on.



French Air Force Dassault Rafale C breaking away.



A Dassault Mirage 2000D from the French Air Force.



Polish Air Force Lockheed Martin F-16C 52 Fighting Falcon.



USAF MD F-15C Eagle based at RAF Lakenheath.



Italian Air Force Typhoon from above.



Hawker Hunter MK.58: ZZ1.91 is used as a target and ship interceptor for the UK Military.



Gloster T.7 Meteor: WA638 owned by Martin Baker and used to test ejection seats.

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Airbus A-400M Grizzly from the German Air Force.



Lockheed C-130H Hercules from the Royal Jordanian Air Force.



An Embraer KC 390 Demonstrator in Brazil Air Force Colours.



Pakistan Air Force C-130E Hercules with a very colourful tail.



Boeing CC-177 Globemaster from the Royal Canadian Air Force.



Head on this time. RCAF Boeing CC-177 Globemaster.



Lockheed C-130K Hercules from the Austrian Air Force.



The Spanish Air Force aerobatic team flying their Casa C-101 Aviojets.

Event Guide

January 1st

New Year's Day Fly-in

The original and first in the world aviation event every year since 2006. Held at alternating venues across the central lower North Island. This time hosted by the Central Hawke's Bay Aero Club. Coffee and muffin on arrival. Be there in time for lunch at noon, \$15. Awards after lunch. NZYP Waipukurau Vectors 02/20. Freq 119.1 More information at www.facebook.com/2019NZYP

January 26th - 28th

Autogyro Association Fly-in

At Dannevirke. Annual gathering of gyro enthusiasts and all manner of rotary winged aircraft. Includes fly-out to Athbey Farm, socialising, AGM, lunches and more. More details possibly on autogyro.org.nz or Ph. President Bruce on 027 620 5006.

February 2nd - 3rd

Healthy Bastards Bush Pilot Champs

At Omapa. See advert at right. Contact Craig Anderson 029 890 4910 or craig@soundsair.com.

February 8th - 10th

Great Plains Fly-in at Asburton

Annual SAANZ summer fly-in, AGM, dinner, awards. Contact Gavin Magill 027 291 0525, admin@saa.org.nz www.saa.org.nz

February 22nd - 24th

Wings Over Wairarapa Air Festival

Hood Aerodrome at Masterton. Celebrating 20 years. Saturday night show and much more. www.wings.org.nz

July 22nd - 28th

EAA Airventure Oshkosh

The largest aviation event on earth. Go with Gaye Pardy Travel - see page 34.

Add your event. Email details to: michael@kiwiflyer.co.nz or phone 09 279 9924.

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The Two Year Project that took Ten

de Havilland Chipmunk ZK-LOM at its new West Melton home.

Some time back, Don Penniall and Jim Chapman were looking for a project and a Chipmunk with an interesting history caught their eye. Now that ZK-LOM is up and running again, Don shares the story of the aircraft and their lengthy rebuild efforts:

Now registered ZK-LOM, our Chipmunk MK22A was built by de Havilland in England as a MK10 for the RAF, then registered WB745. It was

operated with a University Air Squadron (UAS) before being released from the RAF in 1956 and sold to the British Overseas Airways Corporation (BOAC) and registered G-AOJS.

At a time when BOAC was assisting Lufthansa with pilot training, it was later sent to Germany with several other Chipmunks and registered there as D-EHOF.

In 1957 it was returned to England and shipped to Nigeria for pilot training for

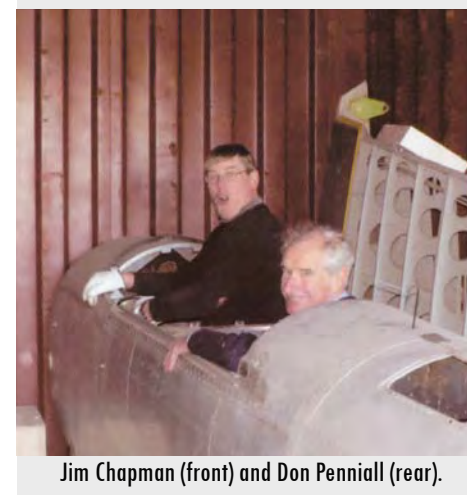
Air Nigeria, now registered as VR-NBI.

On independence it was registered 5N-AAE. All subsequent records seem to have been lost, but it was reported in later years to have been used as a ground instructional airframe.

In 1990 an English engineer discovered this aircraft and two others and had them shipped back to the UK (all basket cases!). Our aircraft was again registered G-AOJS. The registration was cancelled in 1996 and sold into Australia with one other.



The container arrives.



Jim Chapman (front) and Don Penniall (rear).



The front cockpit.



Walter Lom engine.

Our aircraft had two owners and some restoration was carried out. The original fuel tanks were replaced with new 25 gallon capacity tanks, plus a new steel wing tie bar to replace the aluminium one.

Jim Chapman and I were looking for a project, saw this and thought the price right so bought it. The airframe and parts were pretty much complete, and instead of a Gipsy Major power plant it came with a new, in the box, Walter Lom engine (M332A-140HP) hence the choice of NZ registration. This engine is similar to the Gypsy, being a four cylinder inverted air cooled engine of the same HP. It is fitted with a small super charger, is fuel injected and is more than 75 lbs lighter with fuel burn of 26.6 lph.

When the project arrived we split it up. The major work required was re-skinning the rear fuselage, rebuilding outer wing panels and repairs to rudder and elevators.

All structural parts were NDTed by ANZ, all parts inspected and primed as necessary, with poly fibre being used for wing and tail coverings. New wing bolts and link plates and tailplane support brackets were fitted.

Originally the batteries were located behind the rear seat, but with the considerably lighter power plant we had them fitted to the firewall for C of G considerations.

All control cables were tested and several new ones were made up. New instruments, plus radio/transponder/intercom were fitted, and a myriad of other jobs completed including fitting a MT electric constant speed prop.

Until you have taken on a project like this, you would not realise how involved it can become! Not only does one tend to underestimate the time, but also the costs! Certification was also time consuming and expensive.

After we finished the test flying programme, we were issued with a Certificate of Airworthiness in the experimental category.

The aircraft handles and flies the same as any other Chipmunk, but with slightly better performance (no Gipsy oil leaks in the cowls of this aircraft). We're very proud of the result. A special thanks to Jaap Authier who did all of our technical calculations.

Don Penniall 

KiwiFlyer's First Decade



Issue number 1

Issue number 60 of KiwiFlyer marks ten years of publication. A special thank you to our foundation advertisers still supporting us today:

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Kestral Titanium Silver



Flight Tested by KiwiFlyer

How often have you been troubled by the frames of your sunglasses preventing a good headset ear cup seal, especially on noise cancelling sets with a light clamping pressure – or troubled by the pressure of the frames against your head when headsets or helmets are a tighter fit?

The founder of Flying Eyes, Dean Siracusa, had this problem too, and he resolved to fix it. The result is the Flying Eyes Optics eyewear brand.

Aside from quite acceptable styles and quality polycarbonate lenses, the highlight of these glasses

are their 1mm 'thin' Resilamide temples that mould themselves to the shape of your head, exert negligible pressure, and slip virtually un-noticed behind earcups.

KiwiFlyer has been trying out a pair of titanium framed Kestrals with lenses that have a graduated grey tint. Several other options and styles are available including the wraparound Resilamide framed Hawks also pictured. They all come with a microfibre bag, cleaning cloth, and hard protective case.

The polycarbonate lenses are very impact resistant and the Resilamide temples are so indestructible and



Hawk Matte Grey

flexible that they can be bent around onto themselves and will return to their original shape. Nose pads are designed to allow the wearer to adjust them to a preferred position.

Are they attractive? Yes. Are they robust? Yes. Are they as comfortable as they claim? Yes. Do they work better than any other glasses we've tried under headsets/helmets/earmuffs? Most certainly.

Available in New Zealand from the DownUnder Pilot Shop for between \$279 and \$459.

www.downunderpilotshop.co.nz

ZK-NAR, NAS, NAX Cessna 172S



Pilot trainers for over 40 years, Nelson Aviation College have recently added to their fleet with a triplet of ex-Australian Cessna 172Ss. CEO Giles Witney tells me that his wife Katrina found the planes in Perth where they had been located after a cancelled order for an Australian customer. Giles says the college was lucky to find and purchase them, with delivery being undertaken by professional ferry pilot Stuart Caling and two of his team.

VH-YJF (now ZK-NAX) and VH-YKH (now ZK-NAR) arrived into Nelson on 3rd September, and VH-YJK (now ZK-NAS) arrived into Nelson on 16th September to the delight of the Nelson Aviation College senior management team, and all entered service on 4th October after being certified by NZCAA.

Nelson Aviation College was established at Motueka in 1978. They have grown to become one of New Zealand's major Flight Training Operators, are a Preferred FTO of the Air NZ Aviation Institute, and recently also purchased and installed a Pacific Simulators Boeing 737-800 simulator at their Nelson Airport facility. These

latest three Cessnas will be used for flight training at the college, providing the latest technology available to their students.

The Cessna 172 history dates back to a first flight in 1955. Measured by its longevity and popularity, the Cessna 172 is claimed to be the most successful aircraft in history. Cessna delivered the first production model in 1956 and as of 2015, the company and its partners had built more than 44,000. The Cessna 172S was introduced in 1998 and is powered by a 180 hp Lycoming IO360.

Giles says their new planes fly beautifully, are quieter than older C172s, include the latest instrument suites plus angle of attack indicators and LED lights, have comfortable interiors with leather trim – and look very smart in the NAC livery.

ZK-DJG Just Aircraft SuperSTOL XL



Te Awamutu based Donald Gray's SuperSTOL is the first XL version in New Zealand. Donald chose this design as he wanted to keep and operate the plane from his farm so the performance

of the SuperSTOL is just perfect.

The Stretch XL is a larger version of the popular SuperSTOL. XL stands for extra-large. Just Aircraft have taken their traditional SuperSTOL and added 20 inches to the fuselage and 6 inches on the nose to accommodate larger engines. It offers unparalleled performance in short takeoffs, landings and slow flight. The SuperSTOL was designed for back country flying and weekend adventures. Requiring just 100 metres for take-off and with tundra tyres, the XL can be set down in virtually any clearing.

DJG's wings were built in the South Carolina factory, the fuselage and control coverings were done by Paddy McDonnell in Ashburton and the painting was by Red at Elite Transport Refinishers in Timaru. All the rest was built by Grant Coldicott who is the NZ agent for Just Aircraft. Grant also undertook the test flying.

At time of writing, Grant had almost completed the 10 hours of test flying. With a weight of 865 lbs and useful load of 455 lbs powered by the UL 520i flat six 180 hp engine with a 76" Catto two blade wood/composite propeller, the plane uses just 32 litres of 95 fuel per hour. It has 2.3 hours endurance with 45-minute reserve, cruise at 2800 rpm is 95 knots, rate of climb is "simply unbelievable" says Grant, adding "the motor is crisp and smooth, and the take-off roll is like strapping oneself to a rocket and lighting the fuse!"

Grant says the flight characteristics are very much like the SuperSTOL but the additional 20" in the rear fuselage

ARRIVALS - August/September/October 2018

BCV	D.H.98 Mosquito FB.VI	AVSpecs Limited	Manukau	Aeroplane
CRB	Skyfox CA25N Gazelle	Mr R C Beier	Hawera	Microlight Class 2
DJG	Just Aircraft SuperSTOL	Mr D J Gray	Te Awamutu	Microlight Class 2
EII	Airdrome Fokker E-III Replica	East Canterbury Aviation Limited	Temuka	Microlight Class 1
FAA	Kubicek BB302	Mr C W Buschkuhle	Upper Moutere	Balloon
GOK	Schleicher ASW 27-18E	Mr K Flavall	Outram	Glider
GRX	Schleicher ASW 27	Mr T R Delore	Christchurch	Glider
HBQ	Eurocopter AS 350 B2	Mr B J Comerford	Porirua	Helicopter
HCS	Eurocopter AS 350 B2	Airwork (NZ) Limited	Papakura	Helicopter
HDA	MBB MBB-BK117 B-2	Airwork (NZ) Limited	Papakura	Helicopter
HEP	MBB MBB-BK117 B-2	Airwork (NZ) Limited	Papakura	Helicopter
HUJ	Kawasaki BK117 B-2	Airwork (NZ) Limited	Papakura	Helicopter
HLH	Leonardo AW169	Auckland Rescue Helicopter Trust	Auckland	Helicopter
HMW	Hughes 369E	The Alpine Group Limited	Wanaka	Helicopter
HOM	Eurocopter AS 350 BB	The Alpine Group Limited	Wanaka	Helicopter
HOT	Hughes 369E	The Alpine Group Limited	Wanaka	Helicopter
HRX	Bell 206L-4	Heli Resources 2012 Limited	Rotorua	Helicopter
HTH	Eurocopter AS 350 B2	Heli-Hire Limited	Rotorua	Helicopter
HTI	Bell 505	Brookby Quarries Ltd	Auckland	Helicopter
IAA	MBB BO 105 DBS-4	AMH Trust	Hamilton	Helicopter
ICK	Aerospatiale AS 355 F1	Airlift Trading Ltd	Auckland	Helicopter
IDU	Aerospatiale AS 355 F1	Airlift Trading Ltd	Auckland	Helicopter
IDW	Eurocopter AS 350 B2	Precision Helicopters Limited	Urenui	Helicopter
IGS	Kawasaki BK117 B-2	Skyline Aviation Limited	Napier	Helicopter
ILN	Eurocopter AS 350 B2	Oceania Aviation Limited	Papakura	Helicopter
ILO	Eurocopter AS 350 B3	Helicopters Queenstown Limited	Queenstown	Helicopter
ILY	Robinson R44 II	Horizon Helicopters Limited	Christchurch	Helicopter
INT	Eurocopter AS 350 B3	Helicopters Queenstown Limited	Queenstown	Helicopter
IRS	Eurocopter AS 350 B2	Stark Airlines Limited	Hamilton	Helicopter
ITG	Kawasaki BK117 B-2	Skyline Aviation Limited	Napier	Helicopter
IVP	Eurocopter EC 130 B4	Airwork (NZ) Limited	Papakura	Helicopter
JBK	RANS S-6S Coyote II	Mr J K Burke	Little River	Microlight Class 2
KJV	Beech 58	TEX Onsite Limited	Auckland	Aeroplane
MVV	ATR-GIE ATR 72-212A	Mount Cook Airline Ltd	Christchurch	Aeroplane
MVV	ATR-GIE ATR 72-212A	Mount Cook Airline Ltd	Christchurch	Aeroplane
NAR	Cessna 172S	Nelson Aviation College Ltd	Motueka	Aeroplane
NAS	Cessna 172S	Nelson Aviation College Ltd	Motueka	Aeroplane
NAX	Cessna 172S	Nelson Aviation College Ltd	Motueka	Aeroplane
NNA	Airbus A321-271NX	Air New Zealand Ltd	Auckland	Aeroplane
NZN	Boeing 787-9	Air New Zealand Ltd	Auckland	Aeroplane
NZQ	Boeing 787-9	Air New Zealand Ltd	Auckland	Aeroplane
OKJ	Boeing 777-212	Air New Zealand Ltd	Auckland	Aeroplane
OKT	Boeing 777-300ER	Air New Zealand Ltd	Auckland	Aeroplane
SRT	ICP Savannah S	Savannah SRT Limited	West Melton	Microlight Class 2
TBI	Fokker D.VII Replica	The Vintage Aviator Limited	Masteron	Amat Built Aeroplane
TCB	Pipistrel Virus SW	Pipistrel NZ Limited	Whakatane	Microlight Class 2
TPV	North American T-28B	Vause Trusts Partnership	New Plymouth	Aeroplane
UZH	Zephyr Airworks Mule SPA	Zephyr Airworks LLC	Wellington	Aeroplane
VHS	ICP Savannah S	Global Campers Business Trust	Christchurch	Microlight Class 2
VQU	Cessna U206F	Mr P C Jones	Picton	Aeroplane
VXN	Aeroprakt A-32	Dawson-Sheehan Family Trust	Whangaparaoa	Microlight Class 2

TRANSFERS - August/September/October 2018

APT	De Havilland DH 83C Fox Moth	PMH Aviation Limited	Blenheim	Aeroplane
BJV	Cessna 180	Darlington Drilling and Piling Ltd	Blenheim	Aeroplane
BUD	Cessna 152	Airline Flying Club (Inc)	Papakura	Aeroplane
BZH	Piper PA-28-160	Mr J D Mulholland	Rolleston	Aeroplane
CBZ	Cessna 172M	Auckland Seaplanes Limited	Auckland	Aeroplane
CEQ	Piper PA-28-140	The CEQ Syndicate	Cromwell	Aeroplane
CGJ	Cessna 180A	Mr C P Jackson	Blenheim	Aeroplane
CHH	Cessna 150D	Matrinair Limited	Feilding	Aeroplane
CKT	Cessna 185D	Mr F R Wright	Mount Maunganui	Aeroplane
CKX	Cessna 172A	Mr J B Evans	Timaru	Aeroplane
COY	Cessna 210-SA	Christian Church Community Trust	Greyouth	Aeroplane
CSS	Cub Crafters CC11-160	Mr W J N Steel	Turangi	Aeroplane
CWX	Quad City Challenger II	Mr B G Flanagan	Whakatane	Microlight Class 2
DAW	Cessna 172L	NSK Farming Limited	Kurow	Aeroplane
DBL	D Locke Minitwin MKII	Mr P J Neave	Pukekohe	Microlight Class 2
DBV	Britten-Norman BN2A-26	Pacific Island Air Limited	Fiji	Aeroplane
DDK	Cessna 177B	Mr J R Beattie	Waikouaiti	Aeroplane
DEF	Piper PA-32-260	Zodie Investments Limited	Karamea	Aeroplane
DGC	P & M Aviation Quik GT450	Mr T R Leighton	Motueka	Microlight Class 2
DMX	Cessna A185F	Ryan Farms (2006) Limited	Lumsden	Aeroplane
DPM	Cessna 172M	Skydive Tauranga Limited	Mount Maunganui	Aeroplane
ECA	Rans S-10 Sakota	Mr C D Taylor	Queenstown	Microlight Class 2
EGK	NZ Aerospace FU24-950	M Hargreaves Limited	Maungaturoto	Aeroplane
EIB	Piper PA-32R-300	Mr G J Dixon	Auckland	Aeroplane
EJU	Cessna 172N	Mr M VV Reed	Tuakau	Aeroplane
EKE	Cessna 172N	Wellington Aero Club (Inc)	Wellington	Aeroplane
EKK	Cessna 182P	Scenic Hotel Group Limited	Christchurch	Aeroplane
EMD	Gippsland GA200C	Patchett Ag-Air 2015 Limited	Blenheim	Aeroplane
EOJ	Cessna 152	Altitude Leasing Limited	Tokoroa	Aeroplane
ESG	Piper PA-38-112	Mr N P Matis	Wellington	Aeroplane
FEL	Piper PA-28-180	U-FLY (2014) Limited	Wanaka	Aeroplane
FHP	Piper PA-28R-200	Event Entertainment Limited	Mosgiel	Aeroplane
FSR	Gippsland GA8	South Pacific Helicopters (2016) Ltd	Kaikoura	Aeroplane
FTN	Kolb Twinstar Mark-II	Mr R M Curtis	Richmond	Microlight Class 2
FWS	Piper PA-28-181	Otago Airspread Limited	Mosgiel	Aeroplane
GMB	Grob Astir CS 77	Wellington Gliding Club (Inc)	Lower Hutt	Glider
HAM	Eurocopter EC 120 B	WHG Management Limited	Wanaka	Helicopter
HAZ	Robinson R44	Chopper Worx Limited	Taupo	Helicopter
HCN	Robinson R22 Beta	Helizeal Limited	National Park	Helicopter
HCO	Robinson R44 II	Central Helicopters (2014) Limited	Opoitiki	Helicopter
HDE	Hughes 369D	Hokitika Helicopter Services Limited	Hokitika	Helicopter
HDI	Robinson R22 Beta	Mr B A Purvis	Cromwell	Helicopter
HEN	McDonnell Douglas 500N	Southland Helicopters Limited	Invercargill	Helicopter
HEP	MBB MBB-BK117 B-2	Search And Rescue Services Limited	Taupo	Helicopter
HFE	Bell 206B	Kent Helihire Co Limited	Hamilton	Helicopter
HFL	Robinson R22 Beta	Alpha Helicopters Limited	Whakatane	Helicopter
HFU	Robinson R22 Beta	Tinui Downs Trust	Masteron	Helicopter

...continued on next page

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gives it increased stability laterally and longitudinally. Wing spoilers are installed which give lighter roll response at low speeds and the longer (12") gas struts give a wider track on the ground and more travel in extreme arrivals, which it handles very well. He said it is reluctant to pitch in the 'stall', rather enters at a wings level (if ball is in the centre) high nose attitude. The high descent rate is easily controlled with a trickle of power or easing back pressure. At this stage DJG is painted all white but once Donald has the plane back home he will look at adding some Waikato colours to it; maybe a splash of red, black and yellow to the tail or fuselage.

ZK-BEII Fokker E-III Eindecker Replica



East Canterbury Aviation have recently completed and flown a ¾ scale replica Eindecker. Russell Brodie says they have had the kit for about 10 years, but it was only 6 months ago that it was decided to rip into it and get it finished. Russell did the first flight and then handed it over to his son, Ross who has now completed 10 hours of flying.

The Fokker E-III Eindecker is one of a range of similar WWI replica kits produced by Airdrome Aeroplanes of Holden, America. The Eindecker has an aluminum tube fuselage and wings, aluminum sheet for the gusset plates and cowling, and steel under carriage and engine mounts. The Brodies have tried to keep the look of the plane as original as possible with the use of mostly period instruments and two brass switches. The plane was covered and painted using the Butyrate dope Superflite system. WWI Iron Crosses and the registration letters were hand painted by Ross. The serial number 37/15 is significant because Max Immelmann and Oswald Boelcke, two of Germany's top WWI Flying Aces both flew a Eindecker with this serial number.

Immelmann will forever be associated with the Fokker Eindecker, Germany's

...continued from previous page

HIC	Schweizer 269C	Deano's Earthmoving & Logging Ltd	Taupo	Helicopter
HKB	Bell 206B	Mr P M R Desmond	Tauranga	Helicopter
HKL	Robinson R44 II	Heliops Southland Limited	Outautau	Helicopter
HOI	Eurocopter AS 350 B2	Country Helicopters Limited	Gisborne	Helicopter
HOS	Hughes 369HS	Mr W R Hales	Hanmer Springs	Helicopter
HPE	Eurocopter AS 350 B2	Reid Helicopters Nelson Limited	Wakefield	Helicopter
HPE	Eurocopter AS 350 B2	Rimutaka Heli-Services Limited	Upper Hutt	Helicopter
HRA	Hughes 369FF	V3 Heli Limited	Taihape	Helicopter
HSY	Robinson R44	Kent Helihire Co Limited	Hamilton	Helicopter
HWG	Eurocopter AS 350 B2	Heli Support International Limited	Wanaka	Helicopter
HXG	Robinson R22 Beta	Aviation Training 2017 Limited	Tauranga	Helicopter
HYF	Robinson R44 II	Discovery Helicopters Limited	Hamilton	Helicopter
HYT	MBB BO 105 CBS-4	Heliflite Charter & Training Limited	Papakura	Helicopter
IAS	Robinson R44 II	Reid Helicopters Nelson Limited	Wakefield	Helicopter
ICJ	Bell 47G-3B-1	Unique Rentals Limited	Hastings	Helicopter
IEG	McDonnell Douglas 500N	Amuri Helicopters Limited	Hanmer Springs	Helicopter
IEK	McDonnell Douglas 500N	Southland Helicopters Limited	Invercargill	Helicopter
IEN	McDonnell Douglas 500N	RD Manufacturing Limited	Invercargill	Helicopter
IXH	Robinson R44 II	Hurunui Helicopters Limited	Takani	Helicopter
IJT	Robinson R44 II	Rotors in Motion Limited	Amberley	Helicopter
IKK	MBB BO 105 DBS-4	Heli 7 Limited	Taupo	Helicopter
IOI	Hughes 369D	Heli My Way Limited	Tauranga	Helicopter
ION	Bell 206B	Helicopters Sth Canterbury 2015 Ltd	Outautau	Helicopter
IRB	Robinson R22 Beta	Mr N O Horton	Temuka	Helicopter
IRB	Schweizer 269C-1	Cirrus Helicopters Limited	Invercargill	Helicopter
IRB	Schweizer 269C-1	Mr D J Wright	Drury	Helicopter
JB1	Jabiru SK80 Microlight	Mr B J Fitzgerald	Papakura	Helicopter
JDY	Thatcher CX4	Chen Syndicate	Amberley	Helicopter
JIT	DHC-1 Chimpunk Mk 22	CTE Tooling Pty Limited	Auckland	Helicopter
JOS	Aerostar 601	Matrinair Limited	Auckland	Helicopter
KAT	Piper PA-28-161	Wellington Aero Club (Inc)	Australia	Helicopter
KCW	Cessna 177RG	Mr C M Douglas	Wellington	Helicopter
KNZ	Denney Kitfox III	KNZ Syndicate	Whangarei	Helicopter
LRD	Cessna 150M	Mr G E Harnish	Kaipoi	Helicopter
LWN	Piper PA-31	Timara Lodge NZ Limited	Paihia	Helicopter
MAI	Best Off Skyranger Vmax	Mr A P Harrison	Blenheim	Helicopter
MCK	Pilatus PC-6/B2H4	Inflite Ski Planes Limited	Amberley	Helicopter
MHK	Quad City Challenger II	Howarth Syndicate	Aoraki Mount Cook	Helicopter
NAW	Rans S-7 Courier	Marshall & Rietveld Syndicate	Opunake	Helicopter
NPF	Cessna 172N	Altitude Aviation Limited	Hokitika	Helicopter
RCK	McCulloch J2	Mr N M France	Nelson	Helicopter
RET	Wittman Tailwind W.8UL	Service Brands Limited	Auckland	Helicopter
RJD	Piper PA-28-161	Mr G Perera	Kaipoi	Helicopter
RMF	LMA LMA-1-W	Mr K Saunders-Singer	Auckland	Helicopter
RNR	Jodel D.11	Mr Z J Dillon	Picton	Helicopter
RTP	Pitts S-1 Special	Mr I L Krippner	Renwick	Helicopter
RVH	Vans RV-4	Mr P W Casey	Te Anau	Helicopter
SAW	Cessna 208B	Great Barrier Airlines Limited	Kingston	Helicopter
SBV	DHC-2 Beaver Mk 1	Zodie Investments Limited	Auckland	Helicopter
STG	TL-Ultralight TL2000 Sting UL	Mr C A Grant	Karamea	Helicopter
SWR	AutoGyro MTOsport	Mr D J Morrow	Palmerston North	Helicopter
TEC	Cessna 177B	Matrinair Limited	One Tree Point	Helicopter
TFP	Vans RV-12 UL	Mr G A Nordick	Feilding	Helicopter
TJS	Tecnam P92JS-UL	The Light Aircraft Company Limited	Omokoroa	Helicopter
TNA	Rans S-6ES Coyote II	Mr J D Osmer	Rangiora	Helicopter
TRW	Socata TB 9	Mr P J Krauts	Takaka	Helicopter
UTE	Beech A36	Michael & Amy Law	Tauranga	Helicopter
VIR	Cessna P210N	Christian Church Community Trust	Warkworth	Helicopter
WTV	Piper PA-34-220T	Matrinair Limited	Greymouth	Helicopter
WUA	Diamond DA 42	NZICPA	Feilding	Helicopter
WUB	Cessna 172R	NZICPA	Whanganui	Helicopter
WUC	Cessna 172R	NZICPA	Whanganui	Helicopter
YAH	Cessna 172M	Miss A J C Rutherford	Christchurch	Helicopter
YPM	Pipistrel Sinus	Mr W B Coombebridge	Timaru	Helicopter
ZOZ	Rainbow Skyreach BushCat	Ms T R Lawry	Rangiora	Helicopter
ZYX	Diamond DA 42	Mr K Li	Auckland	Helicopter

DEPARTURES - August/September/October 2018

BBX	DHC-2 Beaver Mk 1	Auckland Seaplanes Limited	Auckland	Aeroplane	Dest
CAU	Cessna 172S	Aeromotive Limited	Hamilton	Aeroplane	Exp
CNZ	Cirrus Design SR22	Mr G C Cotterill	Auckland	Aeroplane	Exp
FVD	Britten-Norman BN2A-26	Great Barrier Airlines Limited	Auckland	Aeroplane	Exp
GEM	DG Flugzeugbau DG-800B	Mr T J Harrison	Wellford	Power Glider	Exp
HNF	Agusta AW139	HNZ New Zealand Limited	Nelson	Helicopter	Exp
HTB	Robinson R44 II	The Alpine Group Limited	Wanaka	Helicopter	Dest
HTQ	Guimbal Cabri G2	Christchurch Helicopters 2001 Ltd	Christchurch	Helicopter	Exp
HXN	Robinson R22 Beta	Macsil Deer Farms Limited	Christchurch	Helicopter	W/d
HZR	Eurocopter AS 350 B2	Oceania Aviation Limited	Papakura	Helicopter	Exp
ICG	Robinson R44 II	Helilink Limited	Auckland	Helicopter	Exp
IED	MBB MBB-BK117 A-3	Precision Helicopters Limited	Urenui	Helicopter	Dest
IMC	Kawasaki BK117 C-1	Oceania Aviation Limited	Papakura	Helicopter	Exp
IMO	MBB BO 105 CB-4	Heli 7 Limited	Tauranga	Helicopter	W/d
JKP	Martin Aircraft Series 1	Martin Aircraft Company Ltd	Christchurch	Helicopter	W/d
KCS	Martin Aircraft Series 1	Martin Aircraft Company Ltd	Christchurch	Helicopter	W/d
KEC	Pacific Aerospace 750XL	Pacific Aerospace Limited	Hamilton	Helicopter	Exp
KED	Pacific Aerospace 750XL	Pacific Aerospace Limited	Hamilton	Helicopter	Exp
UXY	Alpha R2160	Alpha Aviation Manufacturing Ltd	Hamilton	Helicopter	Exp
MJA	Martin Aircraft Series 1	Martin Aircraft Company Ltd	Christchurch	Helicopter	W/d
MJC	Martin Aircraft Series 1	Martin Aircraft Company Ltd	Christchurch	Helicopter	W/d
MYS	Piper PA-31-350	Air2there.com (2008) Limited	Paraparaumu	Helicopter	W/d
ONE	Corby CJ 1 Starlet U/L	Mr G D Marsh	Inglewood	Helicopter	Rev
PHX	Boland Phoenix	Mrs G L Dryland	Hamilton	Helicopter	W/d
RPT	Mudrovich Pearse 1903 Replica	Mr I A Mudrovich	Auckland	Helicopter	W/d
RXY	Alpha R2160	Alpha Aviation Manufacturing Ltd	Hamilton	Helicopter	Exp
SPG	Alpha R2160	Alpha Aviation Manufacturing Ltd	Hamilton	Helicopter	Exp
TNB	Alpi Aviation Pioneer 300	Mrs L W Barrett	Pauanui	Helicopter	Dest
WHS	Boland Rover	Mr M N Shaw	Hamilton	Helicopter	W/d
WSP	Beaver Enterprises Beaver RX 550	Mr J S Samuel	Katikati	Helicopter	Exp
ZQD	Boeing 737-838	Jetconnect Limited	Manukau	Helicopter	Exp
ZQF	Boeing 737-838	Jetconnect Limited	Manukau	Helicopter	Exp
ZQG	Boeing 737-838	Jetconnect Limited	Manukau	Helicopter	Exp

first fighter aircraft, and the first such aircraft to be armed with a machine gun synchronised to fire forward through the propeller arc. Immelmann, along with Boelcke and other pilots, were one of the main exponents of the Fokker Eindecker, resulting in the Fokker Scourge which inflicted heavy losses upon British and French aircrews during 1915.

How does it fly? Like a true fighter aircraft of that era. Ross tells me it's easy to manoeuvre on the ground and takes off nicely. In the air it is quite unstable due to the Fokker tail design, and the original warping of wings has been replaced with ailerons, but Ross says they are only slightly effective. The engine is a Rotax 503 with a Tennessee wooden propeller producing a cruise of 65 kts and a stall speed of 30 kts. The easiest part of flying this aeroplane is the landing, which Ross says it does superbly.

If you have recently registered a new aircraft on the NZ register and would like to see a profile of it on these pages, send a message to Penny by email: e.p.belworthy@xtra.co.nz

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