Approach

AIRCRAFT OWNERS AND PILOTS ASSOCIATION OF NEW ZEALAND
SPRING 2023

Family-friendly warbird
Taking the heat: aerial firefighting
Going it alone in southern Africa
Safe decision making

AOPA FLY-INS • INDUSTRY NEWS AND VIEWS • COMING EVENTS AND MORE

Avcraft ENGINEERING NZ LTD

Now Accepting PayPal

Buy online
www.avcraft.co.nz

*All pricing excl. GST and Freight

Avcraft Engineering NZ Ltd
Feilding Aerodrome (NZFI)

06 212 0920

mat@avcraft.co.nz
avionics@avcraft.co.nz

www.avcraft.co.nz
Facebook.com/AvcraftEngineering

Garmin Multi-Function Instrument

Garmin GI 275

REPLACE ANALOG GAUGES WITH ELECTRONIC DISPLAYS

Adaptable to a full range of instrument formats and functions, The GI 275 electronic display lets you keep the classic look of your panel while upgrading with modern, reliable glass touchscreen display technology.

Out with the old, in with the new. It flush mounts in a standard 3-1/8" round cutout.

From piston singles to jets, it's STC'd for more than 1,000 make/model aircraft.

How do you see it? Attitude, altitude, airspeed, CDI, HSI, MFD or EIS.

It's available with precise digital ADAHRS and interface to drive select autopilots.

Connect your cockpit with built-in Wi-Fi® connectivity and BLUETOOTH® technology.

Know you'll get home with up to 60 minutes of optional backup battery power.

GARMIN

From $3,395USD*

uAvionix tailBeaconX

Experimental AV-20-S and tailBeaconX $3,294USD*

uAvionix

uAvionix AV-30-C

Certified AV-30-C and tailBeaconX $4,598USD*

- Mode S + ADS-B OUT Transponder meets airspace requirements worldwide. **Certified GPS Receiver**
- tailBeaconX includes a certified SBAS GPS receiver and antenna.
- The tailBeaconX with integrated dipole antenna is specifically designed to maximize performance when tracked by space-based ADS-B satellite constellations.
- The integrated 20,000 hour rated LED position light ensures the tailBeaconX draws less power than your old incandescent bulb.
- tailBeaconX mounts in place of your existing rear position light. The GPS, space-based, and ground-based antennas are integrated into the lens housing. No new holes or penetration of pressure vessels are required making tailBeaconX the lowest-hassle easiest install period.

Sprague Wireless Cable Tension

SPRAGUE INSTRUMENTS
AVIONICS | TESTING | INSTRUMENTS

Demo unit available, call us today

Only $2,445NZD*

12 Reasons you need to be using the WIRELESS METHOD

- WIRELESS—more convenient than ever
- Comes Calibrated and Certified with +/-2% full scale accuracy
- Its so easy to use YOU ONLY NEED ONE HAND!
- Readings Are right in front of you. You don't have to lock/unlock to get a reading
- The SMALL HEAD will let you easily access hard to reach areas. No other Cable Tension Meter gets in these tight areas
- A cable-free connection between the head to the meter—no fumbling required to capture a measurement
- BUILT—TO—LAST All stainless-steel contact points with an aluminium lightweight body
- Includes a rugged carrying case
- Metric measurement capabilities
- Multiple cable sizes easily changed at the push of a button, enabling all your tension measurements in one tool
- Built in temperature sensor
- THE WIRELESS GRIPPER WILL PAY FOR ITSELF WITH THE TIME SAVINGS YOU WILL GET

APPROACH: *SPRING 2023*
ISSN 2422-8230 / 2538-1083 (*Online*)

Coming up

- *AOPA NZ Spring Fly-in Darfield, 22–24 September*
- *Wings Over Wairarapa Masteron, 24 November*
- *AOPA NZ AGM 2024 Timaru, details tbc*
- *Watch your inbox for notification of One-Day Fly-ins*

For more visit www.aopa.nz

Cover photo: Andrew Vincent in Auster ZK-AZF *(see story, page 12)*
Photo credit: Gavin Conroy

Contents

Regular Columns

AOPA (NZ) APPROACH Magazine is published by AOPA NZ Incorporated
Articles on relevant topics are welcomed. The editor reserves the right to edit submissions for clarity and/or length. Submission does not guarantee publication. Editorial submissions should be sent directly to the editor at editor@aopa.co.nz
ISSN 2422-8230 (print) / **ISSN 2538-1083** (online)
Editor: Anna Mackenzie ph 027 3345466; anna.mackenzie@aopa.nz
Advertising enquiries: Don Ryder ph 04 479 1367 / 027 442 0016 / don.ryder@aopa.nz
Editorial support: Ross Millichamp ph 027 9600724 / ross.millichamp@aopa.nz
Administration: admin@aopa.nz
Postal address: AOPA NZ Inc, members Services, Box 114, Geraldine 7956

Deadline for ads, articles and photos for the next (Summer) issue: **20 October 2023**.

President's Comment

We will be holding a special meeting in spring to explain, further to discussion at the AGM and with our lawyer, a revised proposal for an AOPA NZ charitable trust. It is hoped that a finalised proposal will be ready to present to the 2024 AGM. We will also then be presenting amendments to the AOPA NZ constitution which will ensure we are in line with changes to legislation governing incorporated societies. Watch your inbox for further details.

Petroleum Logistics, trading as GOfuel, recently announced the purchase of the Z Aviation GA fuel network, excluding Z's operations at Auckland and Christchurch International airports. Petroleum Logistics, founded and managed by Rob Bolton, is 100% New Zealand owned, and will continue to offer an AOPA NZ member discount. A PIN or personal identification number will be required.

Artificial Intelligence: who needs it? Whether we are fully aware of it or not, we are already immersed in AI. There is little doubt that it presents a double-edged sword. Analytics for business development must be weighed against invasive monitoring of consumer preferences, which inevitably leads to a sense of being constantly 'watched'. Pilots are tracked whenever we fly our aircraft, which has benefits, for example in the area of safety, but can also feel invasive.

Airlines are currently utilising AI analytics. How far into the future until a robotic AI replaces human airline pilots? In GA, it seems analytics for online courses to train engineers and student pilots are already engaged, but I'll see out my days with hands-on flying – hopefully it will continue to be a choice we can make.

Weather once again played a decisive role in our planned social activities. The AOPA NZ Winter Fly-in at Haast was rescheduled then cancelled as extremes of weather made the event untenable. Thanks to all those who put so much time into organising this event (plenty of work even when it doesn't go ahead), and who also had to make the difficult call about whether or not it is safe to proceed.

Safety is a key focus for our organisation, and the decision to cancel the 2023 Haast fly-in reflected that. I hope all who had planned to attend were nonetheless able to enjoy some flying over the winter months. Hopefully we'll see you in Darfield later this month, or at one of the North Island gatherings currently in the planning stages. Our AGM offers another great opportunity to catch up with fellow AOPA NZ members. It's scheduled for Timaru early in 2024, details to come.

Sue Kronfeld, President

Blue Light fun

Every picture tells a story... and the story here encompasses a whole lot of excitement and new experiences. Blue Light Day is an annual event where AOPA NZ and the NZ Police combine resources to offer the chance to go flying to young people for whom the experience is otherwise well out of reach – and the fun didn't stop there in Rangiora earlier this year, as this 'dress up and clown around' picture shows.

Thanks to the pilots, supporting adults, NZ Police and, most of all, the kids for a great day out.

Extended GOfuel Aero Stop network

Following its purchase of the Z Aviation GA network, GOfuel has launched its new nationwide Aero Stop network. Transition of sites is progressing well, with the final site conversions scheduled to complete shortly.

GOfuel sites are 24/7 and unmanned, operating using new technology fuelcard readers. Existing Z card holders will receive a new GOfuel Aviation card as the conversion schedule rolls out. Z cards will work up until the date of cutover at each site – so don't throw your Z card away until the network transition is complete!

AOPA members will continue to enjoy great discounts, as previously, when using their GOfuel Aviation card. The only difference is that GOfuel has added more sites: 'One card – one large network'. You also receive a discount on Aeroshell products, with GOfuel being New Zealand's only official Aeroshell distributor.

For details of GOfuel Aero Stop network, see the inside back cover. You can also contact GOfuel Aviation Manager Barry Brown or visit the website, www.gofuel.co.nz.

Keeping up-to-date

The new VNC chart book will be available from around mid October, effective date 30 November.

Order through the AOPA NZ website – log in and go to member resources and you'll find it under member benefits – and you receive the AOPA NZ member discount.

International recognition

AOPA NZ's George Thompson was awarded the FAI Air Sport Medal at Flying NZ's recent annual conference.

The award, established in 1991, recognises outstanding services to air sport activities across the ninety member countries of FAI (Federation Aeronautique Internationale).

George has been flying for more than sixty years, currently in ZK-KRD, one of two Cessna 180s he imported from Uruguay and rebuilt over fifteen years.

A committed member of the Waitomo Aero Club since the early 1970s, George – who served as Club Captain before spending seventeen years as Club Secretary – is pivotal in organising open days, fly-ins and events such as the Central Rally, where his knowledge, attention to detail and focus on safety ensure events run with precision. A stalwart of competitions both regional and national, George is always encouraging of others.

He is a keen member and past Executive member of AOPA NZ and an enthuastic member of the 180/185 Club.

Described as 'knowing everyone' in aviation, George credits his achievement to the passion for aviation he shares with other like-minded people, and to a very supportive and understanding wife.

MyAviation platform

Are you a pilot, a maintenance engineer or an air traffic controller? You will soon be able to apply for your licence online!

CAA is improving their online services to give you the ability to apply for a new licence, or update an existing one, online through the new MyAviation web portal.

Using the MyAviation platform is a better way to submit your licence application. You'll be guided though the process with prompts on what documents you need to provide, and sent notifications to help track the status of your application.

Through the MyAviation portal you will also be able to:

- View the status of any applications,
- Access documents you've uploaded with your applications,
- View what licences you hold.

To get started and for more information, visit www.aviation.govt.nz and click Online services. Once registered, you'll receive an email with a link to complete your MyAviation account set up. With that done, it's then easy to complete the online application from your device, including from your phone.

CAA is rolling this out to pilots, LAMEs and air traffic controllers over the next few months. It is one of the steps the CAA is taking to improve the way services and support are provided to the aviation community to improve safety performance.

Welcome to new members:

Corrie & Sheree Pickering, Blenheim; Lisa Watt, Balclutha; Holly Lyttle, Timaru; Edwin Laver, Mahia; Kevin Ormond & Karen Williams, Masterton; Zane Fremaux, Palmerston North; Jon Wilkins, Wellington; Alexander Dent, Raumati Beach; Shane Fleming, Takaka; Dean & Anita Adgo, Silverstream; Phil Collis, Hamilton; Chris Burton, Christchurch; Woody Foster, Napier; David Gordon, Hunterville; Arthur Warner, Papamoa; Gavin Howse, Aorangi; Paul & James Bevin, Kereru; Katie Ben, Nelson; Mark Tapley, Geraldine

Vice-President's view

I am trying to summon up the energy to write this column while working through jetlag. Before becoming involved in aviation, the word Oshkosh was known to me as a brand of children's clothing and a type of army off-road truck. Nowadays, most aviators recognise AirVenture at Oshkosh as the holy grail of private and recreational aviation.

The statistics for AirVenture 2023 are just out and they are staggering. Total attendance of 677,000 people and 10,000 aircraft, and a social media outreach of 18.3 million! Sadly four people died in aviation accidents in and around the show, which was a cruel reminder about the critical need for effective safety planning at aviation get-togethers, including those run by AOPA NZ. I'll write more about the experience of attending my first 'Kosh in the near future.

You'll have noticed that we have been printing extra pages in recent editions of *Approach* which is thanks entirely to the support of our advertisers. It would be great if members could return the favour by supporting our advertisers when considering an aviation service or purchase.

The Publishing and Comms teams had a get-together in Christchurch recently to discuss strategies for keeping members informed about what's going on in our organisation and in the wider aviation community. We concluded that we need to up our game in the social media space, and have invested a small amount of money into getting professional help from Mark Sinclair. Anyone doubting the relevance of social media to the age demographic of our members need only look at the uptake of the WhatsApp platform at recent fly-ins. I was something of a Doubting Thomas at first, but now wonder how we ever ran events without it! To begin with, the focus will be on Facebook and Instagram. It's clear that many of you are already active in aviation-related social media platforms, but please do consider registering for them if not – you might find you enjoy it! Also, please let us know when something of interest happens in your location so that it can be promoted and shared. I'm confident that with your help we can make this a success.

The next few months are going to be busy for the Executive Committee, with a series of aviation conferences around New Zealand and a face-to-face meeting with the senior leadership group at CAA. We also need to liaise with members about changes to our constitution, as required by the new rules governing incorporated societies, and about a proposal to create a charitable trust to promote recreational aviation within the wider community. Hopefully we will find a bit of time to do some actual flying in between!

Ross Millichamp, Vice-President

From the Editor

This issue offers a wealth of international aviation stories to provide vicarious enjoyment, as well as food for thought. As Europe experiences another summer of heatwaves and wildfires, Simon Pemberton writes about aerial firefighting in Australia and Greece. Arthur Ruddenklau and Britta Pilarczyk talk about their years of flying in Africa, in particular with the UN's food aid programmes in Democratic Republic of Congo and Sudan, before they returned to New Zealand to fly with Air Ambulance services. And on a more frivolous note, I share some of the challenges and delights provided by a three week flying safari through Botswana and Zimbabwe. The trip had been so much delayed by Covid it had become hard to believe it would ever happen. Hunkered back down in an unusually wet and chilly Hawke's Bay, it's sometimes hard to believe it did!

We also launch a new column, *'The stories an aircraft can tell...'*. Thanks to all who responded to the request circulated in AOPA NZ's *Short Approach;* we had a great range of replies, which have provided plenty of material to work on. The new column launches with Les Vincent's Auster, Alfie, NZ-AZF – and what a great tale it is of her nearly seventy years. We'll be bringing you more such aircraft stories over our coming issues. If you have an idea for an article, please get in touch at editor@aopa.nz.

Another strand running through this issue is AOPA NZ's strong focus on safety, of both its members and GA in general. Dave Paterson takes at look at best practice for decision-making in the air, as well as the pre-planning that will assist with that decision-making. We also tackle the thorny question of aviation-appropriate fire extinguishers, while highly experienced instructor and mountain-flier, Nathan Clarke provides a refresher on how to read a windsock, together with other cues to wind patterns, to ensure you can make well-informed and safety-enhancing decisions.

The weather continues to be a bit unpredictable in my (and many other) part of the world. I hope you've managed to get in some flying over the past months, that winter offered up some of those crisp, chilly days that can make for a spectacular flying day out (see Neville Bailey's suggested routes for scenic trips from Ashburton, not to mention Aaron Murphy's stand-out photos of Canterbury's 'Pop-up' fly-around – what a great idea!). Hopefully spring will find you all out and about before our next edition. Safe flying.

Anna Mackenzie, Editor

Aerial firefighting

By Simon Pemberton

Through my career I have been incredibly fortunate to play with some of the most impressive single-engine aircraft outside of the military.

Growing up on a farm near Geraldine in the 1970s and '80s, aviation activity was all around, from privately-owned aircraft using the paddocks to land in for town visits, to a busy topdressing industry involving Fletchers and Airtrucks. Fast forward forty years, and I still find it surprising to be doing what I do for a job.

I started fixed-wing agricultural flying in Australia in the late 1990s, predominantly in NSW spraying broadacre winter crops such as wheat and canola, and irrigated summer crops such as rice and cotton. Piper Braves, Cessna Agwagons and Grumman Agcats are among the types I learnt to fly in, before progressing into the world of Airtractors and Thrushes. Bless the people who strapped a turbine on the front of these aircraft. No more late-night oil, mag or cylinder changes, as character building as they may have been.

Through twenty years of agricultural flying in Australia I've seen the cyclical nature of an industry that relies almost totally on the weather; an industry that, with Australia's crippling droughts and flooding rains, requires considerable resilience. Over the years, many agricultural aviation operators have supplied aircraft to support firefighting operations, with this growing into an industry of its own.

For some pilots, it's a natural progression to move into an aerial firefighting role. Ag flying is a strong and sensible route into the field, which requires similar skills. In aerial firefighting you will be operating the same aircraft, heavily laden, in the hills, close to the ground and often with people you've been working in proximity with for years. There will be low visibility in smoke, and the fact that you're going to work in pretty challenging conditions with wind and high temperatures, usually with multiple aircraft in unknown locations, requires good situational awareness.

The larger Airtractor aircraft are, with some modifications such as agency specific radios and fire doors, ideally suited to firefighting. While many of the aircraft used are dual role (able to be quickly converted from spraying configuration to firebombing role), some of the more

Simon and Anna in front of XAT on Base at Nea Anchialos in Greece 2022.

specific firebombers make the financial risk of putting those aircraft in 'the wire zone' a little less acceptable. For example, an Airtractor AT802 can be powered with different PT6 engines, ranging in horsepower from 1280–1680hp. The capital cost of these engines ranges from about US$0.5 million to US$1.2 million.

The most common single-engine Air Tanker (SEAT) is from the Airtractor family, the AT 802F – the 'AT' for Airtractor, the '8' for 800 US gallons (3000 litres), the '2' for turbine engine and the 'F'

denoting firefighting – with a PT6-67F engine producing approximately 1680hp at full wick. MAUW is 16,000 lbs or a tick over 7.2tonnes. Carrying 1400 litres of fuel allows for three hours of working flight time. They have a fire-retardant dispersal system capable of dropping all or part of a load along a length from approximately 40–250m. The FRDS controls longitudinal fire doors via accelerometers that feed information to the computer that adjusts the door position to compensate for speed, bank angle and pitch attitude. Typical loaded ferry speeds are 130–140kts. They are an absolutely incredible aeroplane.

It gets better. One of the downsides of fixed-wing firefighting aircraft has been their need to return to an airbase to reload. Manufacturers and operators have experimented over the years with systems to reload on the fly, similar to helicopters with snorkels or buckets. The clever people at Airtractor and Wipaire came up with, so far, the only working system that allows this to happen. It's called the Fireboss. An AT802F is fitted to amphibious Wipline 10,000 floats that have been modified to scoop water from lakes and seas, directing the water via ram pressure into the hopper. It can refill 3000 litres in 15–20 seconds at about 60–70knt. To operate one of these machines in Australia, you actually need a boat licence.

When you team two or three (or more) of these aircraft together, with a good water source in close proximity to a fire, you can deliver 10 loads an hour per aircraft. That's a lot of water.

Taking two to three tonnes of water on while continuing to fly is a bit of a juggling act. If you get too slow, put the scoops out and are late on the power, you'll bog down and use up valuable take-off distance. If you're too fast on the power, you can skip out before you get the load. The C of G change is minimal as it is pretty well located in the hopper. It's just the weight and making sure you have plenty of take-off distance available. Downwind scooping and take-offs are bad. Even one or two knots adds hundreds of metres to the take-off distance, and climb-out is atrocious. And it's actually quite surprising how difficult it is to pick wind direction sometimes. Glassy water operations are an entirely different beast again, as any float plane pilot will attest.

To put firefighting into stark perspective, every asset has its place. Bulldozers and the men on the ground put fires out. Aviation assets are all tools in the toolbox to assist, direct, build retardant lines, directly attack running fires and protect the urban interface.

Over the last European summer, the Australian company that I fly for subcontracted to a company providing aviation firefighting assistance throughout Europe, and we ended being based in Greece. Three of our aircraft were ferried up from NSW via Indonesia, Maldives, Oman and Egypt. I don't have an IFR endorsement so didn't do the ferry. Turning the hopper into a fuel tank is a fairly simple affair and gives about 14 hours endurance with the wing tanks. My wife Anna and I went up for a four-month contract based off an Hellenic Airforce base near a small town called Nea Anchialos, about 300km north of Athens on mainland Greece.

The airbase is one of the most active in Greece, with some civilian flights from Europe but mostly F-16s patrolling the border with Türkiye to the east.

We had a contractual requirement to be on standby from daylight to dark and to be airborne within 20 minutes of a call. Our days were spent within 20m of the aircraft in air-conditioned huts. Waiting is a major part of a firefighting pilot's job. You can literally go from struggling to stay awake watching *Mama Mia* on the couch to some of the most intense flying you've ever done.

Part of the requirement was for a two-seat machine to carry an interpreter. Even if we could manage our way through the more-Greek-than-English ATC (we couldn't), the fire ground controllers were Greek. It actually worked well, except for that one interpreter, about to go into an airline as a First Officer, who spent the whole flight curled in the foetal position convinced we were all mad and were going to die.

Although it was a relatively quiet fire season in Greece, we routinely patrolled our area when conditions met certain parameters. Being Greece, there were lots of locations of cultural and historical significance, so protecting these was a major priority. We were often working on fires with Hellenic Airforce operated

Canadair 215s and 415s, and PZL M18 Dromaders. In addition, there were a number of US operated S-64 Skycranes, and some Mil-8 helicopters flown by people all named Boris.

One of the bigger fires we worked on was on the Island of Lesbos near the Turkish mainland. For six days we ferried 140nm across the Aegean Sea into the rising sun, spent the day working then flew back into the setting sun to be back at our airbase for the night. The fire ground ultimately covered about 3000ha and burned down to the ocean, causing the evacuation of several villages.

The Greeks were incredibly hospitable and genuinely appreciated our service. The hotel we stayed at looked after us really well, with occasional plate smashing as part of the experience.

General aviation is almost non-existent in Greece, due to many factors but not least the amount of tax that aircraft owners are required to pay annually. It's truly eye-watering. I worked out that if I had my C185 up there it would cost me approximately €75,000 per year in tax, based simply on engine horsepower.

Unfortunately, we didn't get to go back up again this year, however with the move away from the La Niña weather phenomenon towards an El Niño situation, it's looking like an early start to the fire season in Australia. While it's never easy or a good idea to predict these things, three years of prolific growth in the bush has left high fuel loads, and warmer forecast temperatures have us all in a state of readiness.

Making a difference:
Arthur Ruddenklau and Britta Pilarczyk

By Ross Millichamp

He has suffered engine failures, been shot at, been hijacked and thrown in jail. Such was the life of Arthur Ruddenklau while flying for the United Nations on aid and peace keeping missions throughout Africa.

Arthur grew up on a family farm bordering the Waimate Airfield. His father Charles was a PPL pilot and long-time supporter of both North Otago and Waimate Aero Clubs. In those days the Waimate Airfield was a hive of activity, with at least four top-dressing aircraft based there.

From an early age Arthur aspired to be a pilot, and in particular an Ag pilot. He started training while still at school, sitting his PPL flight test instead of going on the traditional outdoor adventure trip at the end of sixth form. He didn't return to school, deciding instead to work towards a CPL, despite being too young to be eligible to sit the flight test. To fund his training, Arthur worked for long-time AOPA NZ members, Andrew and Ruth Orbell at Clayton Station, who kindly let him fly their Cessna 182 to build experience. He completed the theory courses at Motueka and sat his CPL flight test within months of turning 18.

By this time the agricultural aviation industry had collapsed, so Arthur looked toward the tourism sector for his first flying job. Having completed his CPL training with Alister McMillan of Aspiring Air, he was lucky enough to be able to sit in the right-hand seat of the company's Cessna 206s, 207s and Islanders on scenic flights to and from Milford Sound and Queenstown, building knowledge and experience in the challenging environment of the Southern Alps, which led to flights backwards and forwards between Wanaka, Queenstown and Dunedin in the company's Cessna 172 and 177.

At the end of that summer season, Arthur realised he needed more training to advance his career. He returned to Clayton Station as a silage contractor while working through an IFR rating. Once qualified, he joined Kevin Burns at West Air in Franz Josef doing scenic flights around Aoraki-Mt Cook and the

glaciers in Cessna 206s and 207s. When West Air was bought out by Air Safaris, Arthur stayed on as Franz Josef Base Manager before moving to Tekapo to once again fly Cessna 207s around the big mountain.

By now Arthur had itchy feet. As a youngster he'd seen a Super 8 film about Ag flying in Africa, shown at Waimate Aero Club by Ivan Harris, and, while studying for his commercial exams in Motueka, he met Dave Smith, a Kiwi who'd grown up in Kenya where he was currently flying fixed wing aircraft. The two kept in touch off and on, and Dave assured Arthur that he'd have no trouble finding work if he came to Africa.

In those days, flying jobs were hard to get in New Zealand and prospects for advancement beyond Air Safaris weren't great. In 1998 he took the plunge, quickly finding a role with Trackmark Aviation, which had contracts with the United Nations flying relief aid into the Southern Sudan and Somalia. By the time 'Operation Lifeline Sudan' was over, the project had surpassed the Berlin Air Lift as the biggest air relief exercise in history.

Arthur was tasked with flying teams into remote areas in Cessna Caravans. The teams would identify and set up drop zones where bigger aircraft would later airdrop huge loads of much-needed food and medical supplies, and set up feeding centres and clinics to deal with the hungry and sick. Due to the civil war, Arthur's flights were preceded by assessments by UN security teams.

By 2007, Arthur was working in Khartoum as Operations Manager for a South African company, King Air Services, when a young German pilot named Britta Pilarczyk joined the team.

Unlike Arthur, Britta had not had an upbringing steeped in aviation. Her Grandfather had been a flying instructor and had flown Messerschmidts and other planes during WWII, but this era of German history was not often talked about during her childhood. In Germany, pilots were mostly career airline types or wealthy private pilots.

Her first taste of General Aviation was on a flying safari to Governor's Camp in Kenya's Masai Mara while working for German tour operator, World of TUI. The pilot insisted that the young, blonde tour guide should sit in the right-hand seat, apparently to keep the weight and balance numbers within limits…

During the flight the pilot invited her to have a turn on the controls. Aviation was not a career she had previously considered or believed available to her, but within minutes she was hooked. Soon after, she enrolled in a five week Ab-initio to PPL course in Port Elizabeth, South Africa. Two weeks into the course she'd decided to continue to a CPL and, once completed, moved to Botswana to fly for Moremi Air, a tourist charter company in Maun, the gateway to the Okavango Delta.

"Botswana was the only place you could get a job right out of flight school," she says. In fact, she was offered a job even before sitting her flight test, while doing a cross-country (literally) from South Africa to Botswana, both to build her hours and to drop off her CV.

The job involved flying people and equipment to and from safari camps in Cessna 172s, 206s, 210s and Caravans. Her days involved flying up to thirteen separate legs, often starting with taking backpackers on short scenic flights in a C172 over the Okavango Delta or sometimes Victoria Falls, then into a Caravan

Arthur with a welcoming committee in Democratic Republic of Congo. Far left: The United Nations' World Food Programme saw Arthur, and subsequently Britta, flying supplies and support teams to crisis spots across Africa. Inset: The couple has made flying together a success.

to fly better-heeled clients into upmarket safari camps. With 1800 hours under her belt, Britta moved to King Air Services in Khartoum and met Arthur.

After they became a couple, Arthur returned to full-time flying with Britta as co-pilot. Their first assignment was in Kathmandu, Nepal to provide UN support during an election that was expected to lead to civil unrest. When the election progressed peacefully the contract came to an end, and the couple flew the King Air 200 back to the Democratic Republic of the Congo.

They continued to fly as a team in the Northern and Southern Congo for another year before travelling to New Zealand in 2008 for an extended break as they awaited the birth of their first child. While home, Arthur received a call from Barry Brunton at the New Zealand Flying Doctor Service (NZFDS), offering him a job as an Air Ambulance pilot out of Christchurch. The couple had intended to return to Africa, but Arthur had always harboured a desire to fly air ambulances in New Zealand and knew that these jobs didn't come up often. He accepted the role and encouraged Britta to convert her South African licence to a New Zealand licence – which she completed just two days before being grounded due to impending childbirth. Soon their second child arrived, and fourteen years passed before she was able to resume her aviation career.

Meanwhile Arthur's career with NZFDS (part of the GCH Aviation Group) progressed and in 2015 he was promoted to the role of Fixed Wing Operations Manager. He still flies the King Air one or two days a week, spending the rest of his time managing operations and liaising with CAA and Te Whata Ora/Health NZ. Most of their work involves medical transfers, generally moving patients from small regional hospitals to specialised wards at Christchurch Hospital. Even though the King Air is certified for single pilot IFR operations, NZFDS has always operated with a Captain and Co-Pilot to assist with transfers in and out of the aircraft. Every flight carries an intensive care nurse and, when required, a registrar-level doctor, with both nurses and doctors seconded from Christchurch Hospital.

Air Ambulance teams are tight-knit and stable; the current team of fourteen pilots has over 100,000 flight hours between them. When hiring pilots, Arthur looks not only at their qualifications and experience, but also at personal qualities. Pilots spend a lot of time with patients and their families; they can be with them from the ward at the pick-up hospital to the ward at the delivery hospital. Arthur looks for pilots who are a good fit for his team and who are able to show empathy and compassion to clients.

Air Ambulance providers are paid solely on the basis of 'hours in the air' and are not involved in decisions about which patients qualify for transfer. Contracts are awarded for two years, which is a short time in which to make a return on the significant investment involved. The current system is heavily reliant on community fundraising, even though the increasing demand for hospital transfers is largely driven by political decisions to centralise specialist medical care. Arthur believes that the system will, in time, move to longer-term contracts with a mix of fixed and variable funding, as is the case in most other countries.

Fourteen years after hanging up her headset to raise their children, Britta is back in the air, again working alongside Arthur as a pilot flying NZFDS's King Air aircraft. Although she kept her licence current during her lay-off, she says it took 'quite a bit of work' to get her flying back to a professional standard.

Arthur and Britta have recently become aircraft owners, choosing an aircraft from a vastly different era than the shiny King Airs they fly at work. They have purchased ZK AYU, the 1953 Auster formerly owned by Charlie Draper.

"It's old, slow and beautiful," says Arthur. They hope to use it for visits to the family farm, for AOPA fly-ins, and to give their two sons a taste of old school 'stick and rudder' aviation.

Pop-up fly-around, anyone?

By Ross Millichamp

The Haast Winter Fly-in needs two, preferably three days of clear weather on both sides of the Alps in order to go ahead. Unfortunately, as the long planned weekend in early July approached, the forecast suggested that there would only be a few hours of good weather over the three day period set down for the event and so it was postponed.

Half a day of good weather might not be enough for the winter fly-in, but it's more than enough for an informal get together – a pop up fly-in!

Charlie Draper got it rolling by ringing around a bunch of North Canterbury pilots, suggesting they take advantage of their leave passes and the airwork they'd done to get current for Haast.

The strip that is traditionally used for the Darfield Fly-in was planted in swedes, so the group of nine aircraft assembled on a nearby paddock on the property now owned by Peter Morrison. It's not always easy to distinguish one paddock from another in the flat Canterbury Plains, but it was a good test of the paddock's suitability for the Darfield Fly-in scheduled for September.

Once airborne from Darfield, the aircraft split into two groups. Lionel Green led a bunch of Piper Cubs and microlights to Okarito on the West Coast, while Charlie Draper lead three Cessnas and a Murphy Rebel up through the Waimakariri Gorge to the Main Divide then around to the Jellicoe Strip on Manuka Point Station in the upper Rakaia River.

From there Charlie's group headed to Lake Heron Station, where Phillip Todhunter gave them a tour of his hangar and a description of the Heliskiing operation that is based there. By early afternoon they were on their way home with a good view of the worsening weather that would have made Haast a bust.

Spontaneity was alive and well on a frosty morning in Canterbury. Haast might have been a bust, but nine aircraft gathered to enjoy two shorter scenic outings, one group heading west, the other into the Canterbury hill-country.

The stories an aircraft can tell...

From warbird to family retainer

Auster ZK-AZF, known as Alfie, began life as a warbird. TJ187 was the prototype for the British Ministry of Aircraft Supply's artillery spotter contract, leaving the factory of Taylorcraft Aeroplanes (England) Ltd at Rearsby in January 1944 to fill RAF order with Serial No 1272.

In 1949, following an active service life, TJ187 was offered for disposal by tender. Air Commodore Allen Wheeler was the successful bidder, and the war workhorse was re-registered G-ALKI. Allen and his wife then spent several months cruising Europe in G-ALKI.

In 1950, G-ALKI entered the prestigious King's Cup Air Race, established by King George V in 1922. A cross-country handicap event, ALKI was that year up against 36 competitors, including Princess Margaret's Hurricane, flown by Peter Townsend. ALKI placed third to Group Captain Townsend's second, boasting an average speed of 132.5mph around the three lap, 186 mile course.

Late that same year, ALKI was shipped to New Zealand, where she was registered ZK-AZF to Goodwin McNutt, a pioneer in venison recovery based at Waipukurau.

Alfie's worklife continued. In 1962 the aircraft was purchased by Peter and Anne Presland, then of Minaret Station, Wanaka. Five years on, the little Auster joined the AZF Flying Club Balclutha under the care of Jock Findlater, but in 1971 was badly damaged at Lake Alabaster.

Above: Les (in BCK) and sons Andrew (AZF) and Murray (AXJ), "Each with an Auster in their hands." Inset: Grandaughter Hayley kicked off her aviation career flying with Les.

It wouldn't be Alfie's only accident. Later that year, Dave Saxton of Te Anau became the refurbished plane's owner and Alfie returned to venison recovery, only to again be badly damaged in 1972 in Okura River.

Aerotech of Timaru took on the sadly damaged craft, restoring AZF to flying

condition, after which it was purchased by T.M.F. (Forbes) Taylor of Kurow.

Elizabeth and Les Vincent bought AZF from Forbes Taylor in March 1976. Their two young sons gave her the name 'Alfie' and from that point on she has been an integral and loved part of the Vincent family. Family holidays saw Alfie travel around most of the South Island as well as bits of the North.

When each of the boys turned 16, they went solo in the family's pride and joy – with both going on to careers in aviation. Other family members have also enjoyed flying Alfie, including Les's brother and grandchildren.

"It brings Elizabeth and me much pleasure to now have our two grandchildren flying her," Les says.

Hayley, who flies NH90s with the RNZAF, has all but completed her Auster Rating, following flying the Tiger Moth and Chipmunk aircraft at Masterton. Ryan has yet to get serious about Auster flying; he's currently in USA on an Air Force Poseidon P8 course.

The family is thoroughly aviation focussed, with Les and his siblings' families having produced sixteen or so pilots.

At 82, Les still flies – he calls it 'pottering around' – mainly in his two-seat gyrocopter. He's the only member of the family flying dynasty to remain a private pilot, the others all having followed a commercial or military route – but balance that against an important distinction: he was the first!

"I've had a good run," he adds.

Just like his reliable old Auster.

At the time of Alfie's construction, the CEO of Taylorcraft Aeroplanes (England) Ltd was A.L. Wykes, while his son Robert was an engineer on the factory floor. Many years on, Robert and his wife Jean came to see the Vincent's Auster at Lismore, and the couples became good friends, enjoying mutual hospitality on various trips around the world.

To mark the Wykes' 25th wedding anniversary, Les took Robert and Jean for a ride in Alfie, an aircraft built in their family factory back in the war. There are perhaps not many aircraft owners who can say they've taken one of their aircraft construction team for a flight, let alone, done so on the other side of the world!

In 2000, with two other Austers in the family to keep the family airborne, Alfie was withdrawn from service while younger son Andrew carried out a total fabric re-cover and general tidy-up, plus the installation of a fresh engine.

Alfie at West Melton; photo by Aaron Murphy. Right: Les's brother Peter and son Murray in DC3 ZK-AMY with Les in formation in Alfie above the farm airstrip at Lismore.

Alfie may not have been the first Auster to arrive in New Zealand but, given she was six years old when she reached our shores, she is New Zealand's oldest. Her original importer, Goodwin McNutt some years ago offered Elizabeth an exorbitant sum to return Alfie to his care, but the offer was declined, suggesting Alfie's place in the Vincent family is secure.

"It was lovely to have Goodwin and his son fly in to Lismore in their FH1100 on the day Alfie flew her final flight prior to re-cover," Les says. "Goodwin and I flew side by side, Alfie and FH1100, and I later took him for a flight in Alfie – or was it the other way round?"

Going it alone in southern Africa

By Anna Mackenzie

Across the African savannah you regularly observe that being tucked into the herd is safer than going it alone. Hamish and I had enjoyed two previous flying safaris in southern and east Africa, sharing both trips with friends in three other planes – a gaggle if not a herd. The challenge this time was that we were on our own.

One aeroplane, one pilot, three eager and slightly nervous passengers. My sister Sarah and brother-in-law Martin were along for the fun but neither fly, and with no other aircraft, no local guide or safety pilot, a disproportionate share of the load inevitably fell on Hamish.

With three years of Covid deferrals behind us, it had begun to feel as though the trip would never happen. That feeling should have dissipated once we arrived in Pretoria, but unseasonable thunderstorms meant it still felt touch and go. The inclement weather also meant limited opportunity for familiarisation flights, which wasn't ideal. Hamish had expected the C206 to be heavy. It was. He'd known there might be difficulties with hot starts. There were.

When the sky at last cleared sufficiently for us to depart Wonderboom, cheers were heard. Two hours later, as we sat for an hour on the apron at Lanceria post customs formalities – technically we had now departed SA – things had gone very quiet. With an unexpectedly weak battery, two attempts to start proved the limit. What next? That you could start a 206 with a battery and jump leads was news to me, but it worked. "Follow that 737," the ATC said. We did.

After the delays getting out of Pretoria and the weak battery issue at Lanceria, we were racing the clock. We needed a quick turnaround at Gaborone – and quick turnarounds are not the norm for officialdom in Africa. Gaborone proved the exception, with the flight planning office manned by extremely helpful staff.

Flight plans are required for all flights in southern Africa, though there seems to be some flexibility for internal flights in Botswana. In South Africa flight plans are lodged online, though it can take a while to dot the 'i's and cross the 't's, and then to get confirmation, so best not to leave it till the last minute. In Botswana, plans are lodged at each airport using hard copy ICAO-type forms. For flying in Zimbabwe, flight plans must be submitted by email 48hrs pre-flight. Given the difficulties with internet access, this was done from Bushpilot Adventures' Wonderboom office, which removed one potential area of stress – all we needed was the pre-lodged reference codes. In Zimbabwe you also have to pre-pay navigation fees, which doesn't stop you being charged them again once you're there…

In Botswana on Day 1 we were still chasing the sun. From Gaborone we headed off into the Kalahari with an 'X marks the spot' google earth printout, the latest (1998) aeronautical chart, and the trusty GPS. Even with GPS, the idea of finding a dot in 930,000km^2 of desert felt daunting. Maps are scaled 1 in a million, compared to our more familiar 1 in 250k, which means you seem to crawl across them very slowly. And it has to be said: Africa is big. When, seven hours after departing Wonderboom, the Tau airstrip came into view, held breaths were released.

By the time we had the plane tied down, the sun had dipped to the horizon. The safari sundowner tradition was particularly welcome that night, Tau Pan Camp a haven of luxury, and the obvious felt miraculous: we were – finally – here.

Tau Pan is a long-departed lake, now swathed in grassland savannah. Rimmed with scrub, the Pan hosts rich and varied wildlife: oryx, springbok, silver-backed jackals, bat-eared foxes, giraffe, elephants, cheetah and – our luck was in – lions. The Tau Pan pride had been elsewhere for the past week, but on our first morning there they were back. Sitting for an hour with our lovely guides Clifford and PK watching the sub-adults of the pride playfighting over a stick, cavorting with the joy of being alive (and top of the food chain) was an extraordinary experience. We found them again in the late afternoon: a tangle of tawny bodies two metres from

our truck slowly unravelled, yawning and stretching, post siesta. Lions are masters of camouflage. As you watch one, another materialises from the grass just beyond. So three became four. Five. Seven.

Botswana offers some of the richest wildlife ecosystems in the world and our next stop, the two million hectare World Heritage Site Okavango Delta, did not disappoint. On our last night at Tau we were given a message that Xugana (much practising of the Khoisan 'click' sounds occurred) airstrip, our next stop, was closed for maintenance. There went our Google Earth prep. The alternate Camp Okavango strip proved our only grass strip of the trip and easy to find, with the bonus of adding a couple of speedy slalom boat trips through the elephant-high-papyrus fringed channels of the Delta.

This season has been particularly wet in the Delta (where not?) and the channels and lagoon were teeming with birds, hippo, crocodiles, the marsh-dwelling lechwe and more. We came face to rear-end with an old bull elephant up to his waist in the water, surprised a very grumpy hippo (a hippo erupting directly beside you is an adrenaline-producing experience) and enjoyed several sightings of the rare sitatunga aquatic antelope. One morning saw us on a walking tour of Sausage Island (named after the eponymous tree); that evening we ate bream caught by Hamish and Martin while our guide took Sarah and me on a bird-spotting trip through a newly flooding area of the Delta.

Originating from the rains in the Angolan highlands, a stunning 11 cubic kilometres of water travels 1200km to annually replenish the Delta. In just a few days, dry savannah becomes wetland, spreading wider and deeper as the season progresses. Hippos forge channels through the drowned vegetation, and the local mokoro canoes – these days made from fibreglass rather than over-exploited hardwoods – follow. A late afternoon wildlife-spotting 'cruise', as close to water level as you can be without getting wet (and with the resident crocodile and hippo populations, getting wet is assuredly not a desirable outcome), is a great way to end the day.

The pattern of tourist-wrangling can feel a little generic now that many small independent camps and lodges have been absorbed into a handful of large, multi-country-straddling safari companies, but the staff, though following a set routine, give a genuine vibe of welcome. There's singing, there's the daily schedule, and there's the heartfelt determination that during your visit you'll get to see as much of the local wildlife that has brought you there as possible. There's also the food: way too much of it, and all delicious. One guide assured me that they feed us so well so that we won't be homesick. He was surprised to hear that at home we don't eat three course lunches and dinners daily.

We were loath to leave each place we stayed, but the itinerary called us skywards. On Day 5 we headed north to Kasane for fuel and customs out of Botswana, then tracked the Chobe River onwards to Victoria Falls for customs into Zimbabwe.

With four border crossings on the trip, we'd been braced for a good bit of thumb-twiddling but all proved straightforward, if sometimes a little quirky. When departing Zimbabwe, we located the customs and immigration offices, side by side, both empty. Officials were eventually found and when one sat at the customs desk, we handed over the temporary import licence documentation for the aeroplane, only to be told, fairly tersely, that she was immigration. After completing those formalities, we ran the customs docs past the woman now sitting at the immigration desk, and all was well.

The Falls themselves proved something of a washout – such a volume of water was pouring over the 100m high cataract that the spray completely obscured 90% of the 1700m long falls, making the US$50 per person entrance fee a pricey way to get soaked.

The following morning we strolled up to the craft market before heading back to the airport, where the identity of our pilot caused entertaining consternation. In Zimbabwe, pilots wear crisply pressed uniforms, preferably with epaulettes, rather than aertex farm shirts teamed with baggy shorts. The lack of boarding passes can also cause concern at the gate. If you're not doing customs and immigration, it's best not to enter the terminal, as getting out again will inevitably entail security checks and x-ray machines, though

Clockwise from top left: Sarah, Martin, Hamish & Anna with ZA-DIT, SA; Mashatu, Botswana; Tau Pan pride, Central Kalihari; three leg stretch, Mana Pools, Zimbabwe.

Pg 14: Bumi Hills airstrip; inset: Kanga Camp, Zimbabwe.



Loading and unloading the plane became a highly honed process. Strips were good throughout; above centre, Tau Pan, Central Kalihari; at right, Dandawe, northern Zimbabwe.

high-jacking ourselves seems an unlikely scenario. When we refuelled at Kariba, Sarah and I were held hostage. Having gone in to use the loos, there was no way we were getting back out until the pilot had "come to collect us" – by which we assumed the crisply uniformed official meant 'paid the landing fees'. Luckily, he did both.

When it was constructed in the late 1950s, Kariba was the largest man-made lake in the world, and still retains that title if measured by volume of water. We flew up its length, Zambia to our left, Zimbabwe to our right, a bit of heat waffle over the hills the only turbulence we experienced.

Comms with Air Traffic Control was generally straightforward. Accents varied, but most phraseology and clearances are similar to those used in New Zealand, with enough variations to common NZ practice to make it interesting. When you make contact, in addition to the usual details, southern African ATC want to know your fuel endurance and ETAs for TMA and FIR boundaries. There was very little traffic once we were out of South Africa, even at the tourist hubs of Maun and Vic Falls. Landing clearance was often 'Report airport in sight', with an immediate clearance then given. There were a few exchanges with Kariba ATC en route Dandawa where both sides seemed briefly perplexed, but they resolved satisfactorily.

Dandawa airstrip, owned by Mana Pools National Park, is well-maintained. There's even a toilet, ie, three flimsy walls around a toilet pan over a long-drop, with the inevitable aroma and one or two impressively large spiders, but handy in a crisis. Of that, enough said.

Our home for the next three nights was Kanga Camp, under the care of the very welcoming Joiyce and her wonderful team. 'Kanga' means guinea fowl our guide, Clement, told us, but the highlight here was elephants. Within minutes of settling in, a call came from our neighbouring tent: "Anna, there are elephants at the waterhole!"

I scooted out with the camera, little knowing this would be just a taster. Soon we'd be sitting quiet in our truck while an elephant mock-charged, trumpeted and blustered; watching multi-generational families come in to drink at the waterhole as we ate lunch; staring, hopeful, as a heavily pregnant mother swayed and stamped uncomfortably, her four-year old calf her sole companion. Elephants sometimes wander through Kanga Camp, and I crept to the edge of the observation deck

to photograph one scratching against a tent post three metres away. Our eyes met, and I knew: he was coming over to check me out. It's one thing watching a bull elephant from the relative safety of a truck. It's quite another sharing breath, having him eyeball you from a foot away, looking up into his mouth as he eats leaves and berries from above your head. This trip had many highlights, but that's one it will be hard to surpass.

In the hope of seeing African wild dogs at Mana Pools, we'd added a couple of days at a camp on the banks of the Zambezi, an hour's drive from Kanga across the river's flood plain. It wasn't to be: the local pack was denned up and had to be left undisturbed. But there were lions, zebra, kudu, hippo, crocs and elephants. Mana is famous for Boswell, an old bull who has learned to heft his vast bulk onto his hind legs to increase his reach into the albida and mopane trees, a skill he's passing on to younger males. We saw two giving it a shot – just one leg off, but an impressive stretch nonetheless.

An afternoon drifting down the Zambezi in canoes – with an estimated crocodile for every 10m^2 of the 2,500km-long river – provided respite from the roar of trucks, and took us almost to the Zambia shore. Zambezi Expeditions is a tented camp, packed up at the end of the season, but the level of comfort and hospitality manager Sebastian ensures was outstanding.

Our next stop, Bumi Hills, is set on a peninsula that juts into Lake Kariba. Since our visit here in 2015 it has been extensively refurbished and, though the wildlife felt less abundant, there were still plenty of elephants, warthog, hippo, ground hornbills and impala to enjoy. A stand-out was getting close and personal with a wake (yep, that really is the collective noun) of vultures around an impala carcass.

Three days on we were back in the air, saying a quick hello to two male lions that had previously eluded us enroute the airstrip, before heading south to Bulawayo for customs out then on to Limpopo, Botswana for customs in. It was a big day, but everything had by this point fallen into an easy routine, with no worries over being on our own. The route took us over the weird and wonderful rock formations of Matopo Hills then along the Shashe river towards Limpopo Valley Airport on

Youngest visitor to the waterhole, Mashatu. Right: Okavango Delta as the northern flood waters arrive.

Kipling's 'great grey-green greasy river, all set about with fever trees'.

Mashatu Tented Camp is a bouncy hour-long ride from the airport, but giraffe, ostrich and jackals add local flavour. No time was wasted once we'd settled into our tents. Daniel, our guide, is focussed on cats. He found us five lions resting on the shingle of a riverbed, manoeuvring the truck to ensure we got the best possible angles for photos of them waking, play-fighting, bonding and drinking. Next came a leopard heading down to a pool in the riverbed to drink.

The following morning we'd booked the photo hide, which offers a ground level view across a small waterhole. Abundant birdlife, zebra, eland, wildebeest, warthogs, impala all arrived to drink. Then came the elephants, group after multi-generational group. Once they're fully sated, it's a good idea to tuck the cameras under the bench, because the waterplay that follows can see jet-propelled mud splattered through the window openings of the hide.

Daniel was back on the case as the afternoon turned golden: a male lion with a battle-scarred eye, a three-month old leopard tucked up in a tree while its mother hunted, yesterday's lion pride idly watching over the riverbed, and two female leopards returning to their cubs. It was hard to believe we'd seen so much; hard to believe it was nearly all over.

On our last morning we enjoyed quiet time with bat-eared foxes, baboons and diminutive steenbok, all warming themselves in the day's first sun. I confess, I'm a sucker for a baby elephant – who isn't? On that final morning we saw one so young it was still wobbly on its feet, its back hunched in its womb-curve, skin still protected by soft hair. It managed an uncontrolled flap of its diminutive trunk to wave us on our way.

Plane packed, we farewelled Limpopo for the short flight to Polokwane and thence on to Wonderboom, Pretoria. We were all quiet, processing our last weeks. Long-hauls, jetlag and hours of fun wrangling thousands of photographs awaited. Before we left home, we'd been fairly sure that three trips to southern Africa would be enough (and certainly enough for the bank balance). But would we do it again if the opportunity arose? You bet.

If you're considering a flying safari in Africa, check out SA-based Bushpilot Adventures (www.bushpilot.co.za), though you might choose not to do your first trip solo!

IFR syllabus changes

By Reuben Hansen

IFR is an avenue of recreational flying that, in New Zealand, is limited to a relatively small number of pilots. However this number is growing, and regulations seem to be changing to encourage it.

A substantial update was recently made to the Advisory Circular for Instrument Flight Rules (IFR), AC61-17 and AC61-17, Pilot licences and ratings – Instrument ratings, aimed at pilots wishing to become licensed to operate under IFR conditions, and bringing local IFR training up-to-date with the ever-continuing advancements in technology.

The update provides a practical means to equip PPL holders with the necessary skills to navigate the complexities of IFR flying, and removes the need for PPL pilots to complete the two Commercial Pilot License (CPL) exams for instrument rating, streamlining the process for aspiring recreational IFR pilots.

New IFR exam for PPL IFR Pilots (IFR Operational Knowledge)

The most significant implication for PPL holders is the introduction of a new syllabus, Subject 53-IR Operational Knowledge, which is designed exclusively for PPL IFR training. Recognising the unique needs and limitations of PPL holders, this tailored syllabus provides targeted instruction to enhance understanding of IFR operations, airspace requirements, and procedures.

By focusing on relevant topics, PPL holders will gain the knowledge and skills necessary to operate safely in challenging IFR conditions. Previously, a PPL wishing to complete an instrument rating was required to complete the CPL Human Factors and Meteorology exams. Completion of the new, singular, specifically catered exam removes that requirement.

Embracing technological advancements

The revised Advisory Circular embraces the latest technological advancements in aviation, particularly Electronic Flight Instrument Systems (EFIS) as a replacement for Technically Enhanced (TEA) systems.

Training requirements for IFR navigation procedures, GNSS endorsements, and competency have also been updated. The revision outlines the requirements for Global Navigation Satellite System (GNSS) endorsements for other IFR pilots. Additionally, Flight Management System (FMS) ratings will be recognised as GNSS endorsements under specific conditions. PPL holders will undergo updated GNSS receiver competency demonstrations, ensuring they can effectively use these technologies for precise navigation. This is a change from needing to be rated on specific GPS model units, and puts more of the responsibility onto the pilot to ensure they are sufficiently skilled and current on a given GPS model. There are further guidelines on this, so if affected, I encourage consulting the Advisory Circular (AC61-17).

Preparing for future advancements in technology

The revised Advisory Circular moves away from the terms ‘precision’ and ‘non-precision approaches’ and introduces new terms ‘2D’ and ‘3D approaches’. As GNSS technology advances in New Zealand airspace, we will see the introduction of highly accurate RNP/PBN approaches, hence the revised terminology. Older style GPS approaches were not classed as precision approaches. Exciting advancements to come in this space.

These revisions represent a significant step towards improving the relevance of IFR training in recreational aviation and is of great importance for PPL holders operating under IFR conditions. By embracing the latest technologies, and emphasising navigation specifications with a focus on PBN and GPS-style IFR, we are a step closer to practical and accessible IFR for recreational flying in New Zealand.

Interested in IFR? Contact ppl-ir@aopa.nz

Cessna | Beechcraft

BY TEXTRON AVIATION

YOUR ENDLESS ADVENTURE AWAITS

Get into the pilot's seat of a factory-new CESSNA SKYLANE piston. This celebrated aircraft delivers a level of performance ideal for the next level of pilots. Strap in. Go fly. Enjoy every minute of your adventure.

For further information and new orders, contact us directly:
Kath Pagsolingan
Textron Aviation
Regional Sales Director (Pistons)

+65 8323 1937
kpagsolingan@txtav.com

#WITH MY CESSNA

www.cessna.txtav.com

Decision, Decisions, Part 2: Up and away

Decisions made 'on the fly' are fraught with confirmation bias and when something really goes pear-shaped, task saturation is probable, meaning there's limited spare capacity to formulate plans.

Pre-planning decision-points and solutions to possible issues, specific to the environment, is preferable (see 'Part 1: The Decision to Fly', APPROACH Winter 2023). So, prior to departure, you've had a think about the day and made a plan, with some alternative options. You've considered forecast, aircraft, passengers, fuel, loading… because you know that preparation done on the ground will make dynamic decisions during the flight easier. As with so many things, prior preparation prevents piss-poor performance.

As pilot in command, you're in charge, and now you're airborne. Cross-country flying boils down to three main considerations: weather, fuel and daylight.

Weather

New Zealand's topography, latitude and marine surroundings can make for some challenges. Our weather changes quickly – quickly over time, and quickly over distance.

Think about the rules. Do you know what CAA Rule Part 91 VFR minima requires? Below 3000ft? Above 3000ft? Waiting for the weather to deteriorate to minimum VFR met minima is not the best decision. Let's do better than that.

Pre-planned decision points, alternative plans, and consideration of the conditions that might be encountered are essential – and part of the anticipation.

Alternatives might include different passes/routes, waiting out the bad weather, and/or staying somewhere different. Even driving if needed. Having alternative options will lead to better decisions.

Fuel

Fuel planning is critical. There are few things more certain: no fuel no thrust; you're a glider and going down fast. The scenario after that is serious.

Unfortunately, a fuel-exhaustion-induced engine failure is by far the most common reason for an engine stopping. Engines themselves are quite reliable. NTSB data compiled by Aviation Consumer indicates that a mechanical engine failure resulting in a reported accident occurs once per 500,000 flight hours. Fair to say that every time an aircraft runs out of fuel, it is the result of pilot mismanagement. Mismanagement from bad decision making, lack of planning and, ultimately, running out of options.

Keeping an in-flight log can be useful. It's ideal for fuel monitoring, especially if your aircraft fuel system cannot run off 'both'. At the very least, note when you took off, how much fuel you have in each tank and what your conservative fuel burn is (which varies hugely). This will help make good decisions later on.

Consider the minimum fuel reserve. VFR, by day, minimum 30 minutes of usable fuel. Let's take a trusted Cessna 172 burning 35L/hr. How much is unusable? Does your dipstick read usable? If you are landing with minimum fuel, you'd better make sure you've got it right. Do you fly perfectly in balance all the time? Do you lean appropriately? How full was the tank to start with?

Was it filled up until the pump auto shutoff or filled to the brim? If you have a fuel flow meter, is it calibrated correctly and did you set it correctly with your take off fuel quantity? Did you miss an opportunity to uplift fuel because you had the wrong fuel card?

Pre-brief the alternative options, as well as the decision point where they would be actioned based on the conditions you set (remaining endurance, chance of diversion if you proceed, point of safe return if you cannot reach your desired destination with the fuel remaining).

Ensure the fuel you have is going to get you to a safe destination. Conservative fuel planning might just save your life. Fly with margin.

Daylight

Have you ever landed at Evening Civil Twilight (ECT)? It's okay, but only just. By the time you've taxied in, it's really dark, then you have to secure the aircraft. ECT has some variations too, such as on a cloudy night or in an area enclosed by terrain. Picture a scenario where you descend out of daylight and commence a landing on ECT: wow, does it get dark fast! Some recommend planning on landing with 30 minutes to spare, and there are days when that 30 minutes won't be enough.

Pre-brief your alternative options, as well as the decision point where you will action them, based on the conditions you set (remaining daylight, chance of diversion if you proceed, point of safe return if you cannot reach your desired destination within ECT), and allowing time to get to an alternative also within ECT.

Don't underestimate how quickly you run out of daylight! Be conservative. Fly with margin.

Decision points

The weather, fuel and daylight on the day largely dictate the enroute navigational decisions you are going to have to make, and the decision points for making them.

Decision points will generally be set based on when you can:

- Back out of a valley, before there is insufficient room to complete a reversal turn
- Back out of your 'VFR over the top' decision before conditions have changed where you had planned to descend, a cloud sandwich confronts you, or the cloud tops just get higher and higher
- Back out before turbulence exceeds your comfort level
- Back out before visibility/cloud base reaches your minimum, and before legal minimums
- Back out before headwinds will not allow you to reach your destination, either within ECT or within your fuel endurance
- Back out of your intention to join an aerodrome or controlled airspace when it is too busy or you are not sorted out with frequency/ ATIS/ plates/ situational awareness.

Technology

Aircraft and cockpit tools also play a key role in decision points, though typically less (based on accident statistics) than weather-fuel-daylight.

Technology has changed the way we aviate, and with that comes reliance. Bluetooth headsets enable talking on your phone. Cellular coverage and devices allow you to check METARs/ATIS/Windy/Metvuw/PreFlight/Webcams. You can

message and update family or friends flight following. ADS-B provides for improved traffic awareness.

What happens when that technology fails (flat battery, overheating, no cellular coverage, forgot it in the first place, App's not up to date, etc)? How do we cope? Could you navigate the 'old way', after you have been highly distracted trying to sort these kind of issues, probably at a time when you have more than enough on your plate already? Think task saturation…

Pre-brief alternative options should you lose technology capability and make sure you are prepared with alternative systems, and know how to use them. Have paper-based options (charts, AIP). With an up-to-date AOPA NZ VNC chart book, there is really no excuse, and with it you also meet your legal obligations. You may consider a decision point where you will not proceed if you do not have the tools you need functioning correctly. Land, and sort it out.

Although rare, you will have decisions to make if you encounter an aircraft issue: a magneto/alternator failure, blocked injector, rough running, persistent carburetor ice, low oil/fuel pressure, propeller governor failure, door/cowl hatch popped open, fumes in cabin, etc. All have different levels of seriousness requiring different inflight responses.

There have been countless accidents caused by the distraction of a non-flight critical issue, rather than by the issue itself. For example, an alternator failure may not require an immediate forced landing, but a stuck exhaust valve or cabin fumes might! Conversely, not understanding and appropriately dealing with an issue when presented can worsen the situation and outcome.

Pre-plan: know your aircraft, its systems and what some inflight rectifications might be. Be familiar with your flight manual. Consider the practicalities of you, as a single VFR pilot, referring to a flight manual inflight when an issue presents!

Pre-planning the types of responses a multitude of issues require should make it easier if they eventuate. Pre-planning responses might mean you are better able to ascertain those that are life threatening versus those that might have you fixated and distracted.

FDODAR

FDODAR is an acronym developed to assist good aviation decision-making. It stands for: FLY — DIAGNOSE — OPTIONS — DECIDE — ASSIGN — REVIEW.

The most important part is FLY. Fly the damn aircraft. This can't be over-emphasised; it is the most important job a pilot has. Losing control of the aircraft will potentially be fatal, and additionally presents a risk to other airspace users.

Back to the big considerations. Daylight, Fuel, Weather. In the perfect flight, all three have ample margin. But there are days when the margins get tighter. What we are prepared to accept will depend on many factors, not least experience. Often pilots can manage one of these factors having less margin. If you find yourself up against two with reduced margin, you should probably have made a better decision earlier in the flight. All three with minimal margin is not setting you, or whoever is with you, up for a good day or experience.

It is ironic what experience offers. One very experienced operator recently summed it up perfectly: "Being experienced doesn't necessarily make you fly better, you just see the cock-ups earlier."

Through pre-planning, you increase your ability to not leave your decisions to the last minute, or second.

One problem reveals another ...

Jay McIntyre is the owner, LAME and IA of JEM Aviation, Omaka

By Jay McIntyre

Last issue, we were trying to get to the bottom of a magneto fault with the Mk XIV Spitfire during Classic Fighters Airshow. Well, we got it sorted post airshow, due to the diligence of JEM Aviation employee, Scott Tudor and Marlborough Aero Club member, Paul Radmill.

They were able to isolate the problem to the ignition booster coil which, perhaps a little oddly, supplies its boosted current to the magneto via the P-leads (most systems utilise a separate HT lead from the booster coil unit to the magneto).

Paul has a magneto coil rewinding business and, on testing the coils, found that the coils we thought were burnt out were in fact still serviceable. This did not make a lot of sense given replacing the coil had fixed the fault for a short time. Further investigation revealed that someone had installed an American starting vibrator instead of the English booster coil, with the data plate cunningly hidden so it wasn't obvious to the casual observer. A quick check of the circuit diagrams for both revealed that this shouldn't work – even though it had done since the aircraft was rebuilt! So, where to get the correct booster coil…

As seems the way with airfields all over New Zealand and probably the world, we had a stroke of luck when Anson owner Bill Reid wandered by and observed that he thought he had said booster coil on his shelf (there being a photo of the unit in the Spitfire manual). He couldn't find it but, on looking through his extensive library of English manuals, he came to the conclusion that the unit fitted to Bristol Freighters was the same part number! Where else in the world is there a great cache of Bristol Freighter spares but Omaka!

We sent Marty Nicoll down to the Bristol spares shed and he found a booster coil unit on the dirt floor of the shed. Paul took it back to his workshop for testing and pronounced it serviceable after replacing a number of the internal capacitors.

We fitted it (funnily enough the anchor nut spacing on the frame where it mounted was identical) and ran the engine. She started easily and extensive ground runs revealed no problems. Observers remarked that it seemed to run smoother. Unfortunately, we have not yet been able to flight test the aeroplane.

Amazing that we were able to solve what was quite a convoluted and complicated problem in little old Blenheim.

Of course, it wasn't a quick process and involved a lot of patience and expertise, resulting in a fairly substantial bill to fix a problem that would never have happened if the correct component had been fitted in the first place. As the years march on, problems like these are becoming almost prohibitive to fix, and it takes a hardy customer to stump up for it. As minimum wage increases have a knock-on effect on wages for those who have knowledge and expertise, I find myself having to pay 'know-nothings' (and I mean that in the nicest way possible as I was one once!) the same as what I was not long-ago paying people with training, skill and knowledge.

The old business model of 3:1, where charge-out rate is three times the wage of the person carrying out the work, generally works, but as pay rates get up to $25/hr for minimum wage (meaning probably at least $120/hr for experienced personnel), then jobs like the aforementioned troubleshooting can get completely out of control pricewise.

Of course, the third that is meant to go to the business owner is the first thing to take a hit, followed by the third meant to go to running the business! Mike Busch (Savvy Aviation) produced an interesting podcast https://youtu.be/krosA9t3frU a few months ago, talking about the flow-on effects of this, coupled with the increasing lack of maintainers coming into the industry – something I am certainly finding at the moment. Food for thought…

Fire extinguishers: no perfect fix...

By Jeff Simon

Jeff Simon is an A&P mechanic, IA, pilot, and aircraft owner in USA. He has spent the last 22 years promoting owner-assisted aircraft maintenance.

While a mechanic was working on an aeroplane in the hangar, a spark ignited some raw fuel below the engine and started a fire. The mechanic reacted quickly, using a multipurpose dry chemical fire extinguisher. The fire was quickly put out, but the aircraft and several other aircraft nearby were severely damaged. It wasn't the fire that caused the damage, it was the extinguisher.

While any fire extinguisher is better than no fire extinguisher, there is a reason why certain fire extinguishers are specifically approved for use in or around aircraft. Not surprisingly, the low-cost extinguishers that you will find at your local hardware store can wreak havoc in both the hangar and the cockpit.

These common 'ABC' fire extinguishers (the letters designate appropriate use, for dousing Class A fires fuelled by ordinary combustible materials, Class B fires fuelled by flammable liquids and gases, and Class C fires involving energised electrical equipment) use a chemical agent called monoammonium phosphate. It does a great job of putting out fires in and around your home precisely because it melts and flows when it comes in contact with heated surfaces.

However, it is highly corrosive, especially to aluminium. When it comes in contact with an aircraft, it quickly works its way into joints and crevices, instantly causing corrosion, while also destroying electrical components, contacts, circuit boards, and other things it may coat. It cannot be easily flushed out because the compound mixes with water to spread an acidic liquid even further into the aircraft. The dry agent is so corrosive that it can damage nearby aircraft that inevitably get dusted in the process of discharging even a small extinguisher.

If this much damage can occur in a hangar or on an airport ramp, you can imagine what will happen if one of these extinguishers is used inside an aircraft. The pilot and passengers will be temporarily blinded by the dry agent and, even if they land safely, the aircraft will likely be beyond reasonable repair.

The solution is to use aviation-approved fire extinguishers. The two most common types of aviation extinguishers available in the USA are carbon dioxide and halon (specifically Halon 1211) extinguishers. Carbon dioxide extinguishers are suitable for airport and hangar use, but not in small spaces like a cockpit. Carbon dioxide is poisonous at a concentration of four percent, and lethal at just eight percent.

Halon is known as a 'clean agent' that comes out of the bottle as an electrically non-conductive liquid that can be directed at a fire source. However, as opposed to water or dry chemicals, halon quickly turns to a gaseous fire extinguishant that leaves no residue after it evaporates. It literally 'breaks the chain' of

the fire reaction and quickly stops fires of almost any type. It is also fairly non-toxic and heavier than air, so it will tend to settle below breathing height in most situations. That said, halon is not perfect. As it attacks the fire, it emits a sharp, acrid odour. It is also very expensive, mainly because the chemical compound is extremely damaging to the ozone layer and its production has been banned since 1994. 'New' halon comes from recycling carried out by companies such as H3R Aviation.

(NB: This article hails from USA. Neither halon or halotron products are available in New Zealand; see sidebar —Ed)

I have a 1.25 lb halon extinguisher mounted behind the co-pilot seat in the Bonanza, within easy reach of the pilot and the rear seat passengers. It doesn't take up much space or weight, yet it has a range of 3.6m and can discharge for 10 seconds before it's empty. That's a lot of punch for most GA aircraft.

I also keep a pair of swimming goggles in the glove box to protect my vision in case of an in-flight fire.

For use on the ground, I have a larger extinguisher mounted to my tug, which keeps it near the engine and fuel at all times, as well as a 5.5 lb Halotron extinguisher that I keep within the hangar. Halotron is a similar agent to halon that is still legal for production, though less effective.

Selecting the proper fire extinguisher can protect both your life and your aircraft investment. It also pays to educate those around you. Look around the shop the next time you drop off your aircraft and make sure there aren't any dry chemical ABC fire extinguishers around, just waiting to ruin your innocent aircraft.

The New Zealand situation

Halon extinguishers are not legal in New Zealand, while halotron is not currently available, which leaves us with limited alternatives.

Vector in 2003 ran an article listing CO_2 as the only viable option for aviation, but noted that significantly larger quantities of the extinguishing agent were required to effectively put out a fire, noting that, if using a CO_2 extinguisher, it should be held 1-2m from the base of the fire and gradually moved forward and upward, swinging the nozzle in slow, even arcs. If no option but dry powder was available or had already been used, the advice given was to wash it off as quickly and thoroughly as possible then treat the entire engine bay with a corrosion inhibitor.

Past President of AOPA NZ, Steve Brown, believes it timely to give the issue further thought.

"The most common scenarios for an aviation fire are when refuelling or on starting. In this situation, a CO_2 extinguisher is a good option. Even better is putting the fire out without using an extinguisher, which is often feasible. Some fires can be smothered, while others will simply burn themselves out. In the cockpit, testing on the feasibiity of using a CO_2 extinguisher with the windows open might be useful."

Specific requirements are legislated for commercial aviation operations, and should be adhered to at all times.

Flying Getaway..

Ashburton

By Neville Bailey

The story goes that when a middle-aged lawyer resigned his partnership at a high-flying big city legal firm and was asked what he was going to do next, he replied, "I'm not sure, but wherever I go, it's going to have old wooden floors." I mention this because when I ended up hangaring my aircraft at Ashburton Airfield, I was immediately struck by its charm, the grass runways, the old-fashioned replica control tower, and the museum. It's got a character that you don't find at the larger, busier airports.

Photo credit: Michael Klajban

Ashburton sports a small, well-supported Aero Club, engineering facilities, and a plethora of tail-wheel aircraft.

Ashburton Airport lies just 2nm east of Ashburton township, and originally opened in 1930. During WW2 it became an RNZAF training base, with 50 Tiger Moths and a control tower. After the war, the Canterbury Aero Club resumed a lease and in 1989 the Ashburton Airport Authority was formed for administration.

The airfield sits well clear of controlled airspace, and if there's one thing that it has to offer, it's not its proximity to big cities but, rather, its distance from them. Located on the mid Canterbury Plains, the airfield is surrounded by thousands of acres of prime New Zealand farmland forming one of the farming powerhouses of the NZ economy.

A short 25nm/15 minute flight takes you into the mountains where the scenery is nothing short of spectacular. The South Island is known for its braided rivers and, among others, the Rakaia River sits a few miles to the north, the Rangitata a few miles to the south. Both rivers run deep into the Southern Alps and have played a significant role in the rich history of the area.

Aviation museum

You often see a number of camper vans parked outside the Ashburton Aviation Museum, so it was only a matter of time before I wandered over, curious to see what they were seeing that I wasn't.

The museum receives a steady stream of international visitors, and a glance inside makes it easy to see why. For a small town museum, it punches way above its weight. Display aircraft include a Skyhawk, Aermacchi, Percival Proctor, Meteor and, the star of the show, a Harrier Jump Jet. There are over 25 aircraft in total, and the word is they've got their eyes on a few more. A large group of retired gents meet every week for a coffee and a chat, and a number of them are available to show visitors around.

Out and about

The Mid Canterbury Aero Club operates from Ashburton out of modern clubrooms. When coming from a larger, busier airport, it's quite refreshing to have little or no wait at the holding point. There are a plethora of smooth, generally dry, wide and long vectors available.

It's just a five minute flight over farmland to the coast, so the transit time to a suitable training area is negligible, and likewise to the low flying area. A twenty minute flight gets you to Timaru Airport for a change of scenery, and one runway at Ashburton has lights for night-flying.

The nearby Southern Alps are peppered with Department of Conservation (DOC) airstrips and backcountry huts. It's hard to comprehend, when you are ensconced in an urban life, how different the world is in our country's more isolated regions. Many of the airstrips originated in the old deer culling days and have been well maintained since.

Accessing them requires a concession operated by the Recreational Backcountry Pilots Association (RBPA) – annual subscription and other access details are available on the Association's website at www.rbpa.nz; AOPA discount applies. Specific experience is recommended for most of these airstrips, and guidance is given when joining RBPA.

For many, the attraction of Ashburton is its proximity to a vast range of backcountry and farm airstrip flying. Many of the local farms and stations have a history in aviation and some operate accommodation alongside an airstrip.

Don Patterson at Manuka Point Lodge (www.manukapoint.com) on the Rakaia River, Philip and Anne Todhunter at Lake Heron Station (www.lake heron.co.nz), the Prouting Family at Mesopotamia Station (www.mesopotamia.co.nz) and

Alastair and Annie Studholme at Cold Stream Station (www.coldstreamestate.com/fly-in) all offer friendly and welcoming accommodation and grass runways that are generally suitable for a wide variety of aircraft. Russel Brodie at Rangitata Island airfield (www.realflying.co.nz) has a bustling fraternity of ultralights and vintage aircraft. Anama Airfield has its own landing charts, and suggests that tents may be pitched next to the WC building. All of these are within 35 minutes flying time of Ashburton. As with all privately owned airstrips, etiquette is to make contact first so they can give you a friendly brief on conditions.

Scenic flight suggestions

If you're new to the area and wondering what to do, try this:

From Ashburton, head northwest over Methven and Mt Hutt and follow the Rakaia River inland past Lake Coleridge and Manuka Point. For a 60 minute scenic flight, turn left at Lakestream and due south back via Lake Heron to Ashburton.

For a 90 minute scenic, continue to the head of the Rakaia and you'll be over the Ramsay Glacier and the Southern Alps.

At around 7000ft and five minutes west, you'll find yourself over the spectacular ice fields 'Garden of Eden' and 'Garden of Allah' (you're now 20 minutes flying time from the West Coast). Drop down into the Havelock River, southeast bound past 'The Growler' (don't ask) DOC airstrip to where it joins the Rangitata River. Your flight will take you past Mesopotamia Station, Erewhon Station and back to Ashburton past Anama airfield. This is Lord of the Rings 'Middle Earth' type country, so make sure your co-pilot is handy with the camera.

Ashburton is a worthy destination in itself, but if you're passing through and planning just a pitstop for fuel and coffee, plan a few extra minutes, or an hour or two, and go visit the museum.

If it's one of those stunning, crisp and cold, stable mid-winter mornings, plan a scenic up into the mountains and through the icefields for an unforgettable excursion.

And if you're able to combine both of those and also include a fly-in farm stay or two, you'll have the experience of a lifetime.

Windsocks – size matters!

By Nathan Clarke

So often as a trainee pilot we were told "Check the windsock." But were we always told what to look for? Assessing the wind is an important factor for take-off and landing distance calculations, as is assessing any change in the wind from when those calculations are made.

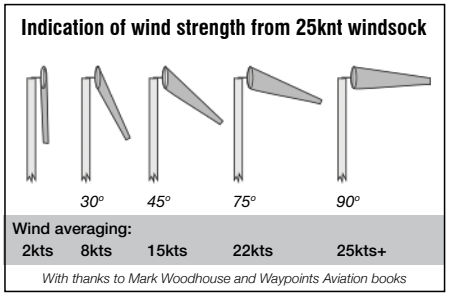
First of all, what is the sock rated for? Yes, size matters! If the sock is a burnt orange and meets the size and weight specifications of NZCAA, the rated erect windspeed is 25knt and the tail of the sock will flick around at 35knt. A full-size sock at 45° to horizon will be 15knt. The windsock frame should be around 6 to 6.5m from the surface.

A bright dayglo orange sock that has the same frame throat size but is significantly shorter is still a 25knt windsock fully extended, but the tail will not flick around over 25knt, so for winds up to 25knt they can treated as the same. These shorter socks will be found at many non-certified rural aerodromes.

A small windsock is unrated, but could be erect at anything from 8–20knt, depending on weight. Most helipads have a lighter weight windsock because of the critical nature of tailwind on helicopter operations.

All socks are not equal

FAA and European specifications differ from NZCAA requirements, most foreign legislators requiring the windsock to be fully erect at 15knt. If the sock seems to be made from lighter material and is either red or striped orange and white, it is probably an imported product meeting the overseas requirements of 15knt. These socks behave quite differently, moving around a lot more laterally and having more mobility horizontally. Pilots need to be very aware in crosswind situations with these socks, and use other visual and tactile clues to assess wind.



With thanks to Mark Woodhouse and Waypoints Aviation books

Visual assessment

Crosswind assessment is very important when deciding which runway to use and which way to land if direct crosswind, or whether to land at all, if it comes to that. Some aircraft are particularly limited in crosswind conditions, especially if it's gusty.

Parallax is another issue at larger aerodromes. A sock some distance away can be hard to assess. I look for multiple socks and take the environment into consideration when assessing.

Visualisation should be used to assess the take-off and landing path, assessing the wind in relation to obstacles and terrain beside the approach and runway. Turbulence, wind shear and the funnelling effect may cause issues.

Assessment of wind and obstacles can start during preparation prior to the flight by looking for trees and obstacles along the approach and runway. The funnelling affect is especially prevalent where aerodromes are more built-up with hangars.

Gusting wind

If the windsock is going crazy either laterally or horizontally, the wind is unpredictable in direction (moving horizontally) and/or gusting (moving up and down), caution should be exercised. Departure and approach speeds should be modified to meet conditions. If the gusting wind is frontal then waiting some time might be prudent to allow the gust front to pass.

Stuck frame and visual clues

If the frame is pointing in one direction and the sock in another, generally the frame is getting stuck. This can be a problem in high rainfall areas like the West Coast of the South Island. Using other visual cues and best guess is the trick here. These can be critical to safe operations. It is the pilot's responsibility, using reports, forecasts, local knowledge, etc, to assess what is happening above six metres.

Other visual cues that should be utilised before take-off include: grass near the aircraft; tree tops; cloud movement; cloud formations; anything picked up by the wind; fixed objects like flags, washing on a line, etc; prop noise; fumes entering cabin; feel of the aircraft, controls, etc.

Once airborne, cues include lift/sink; groundspeed vs airspeed; drift; turbulence; blowing dust; tussock/vegetation movement.

Go around

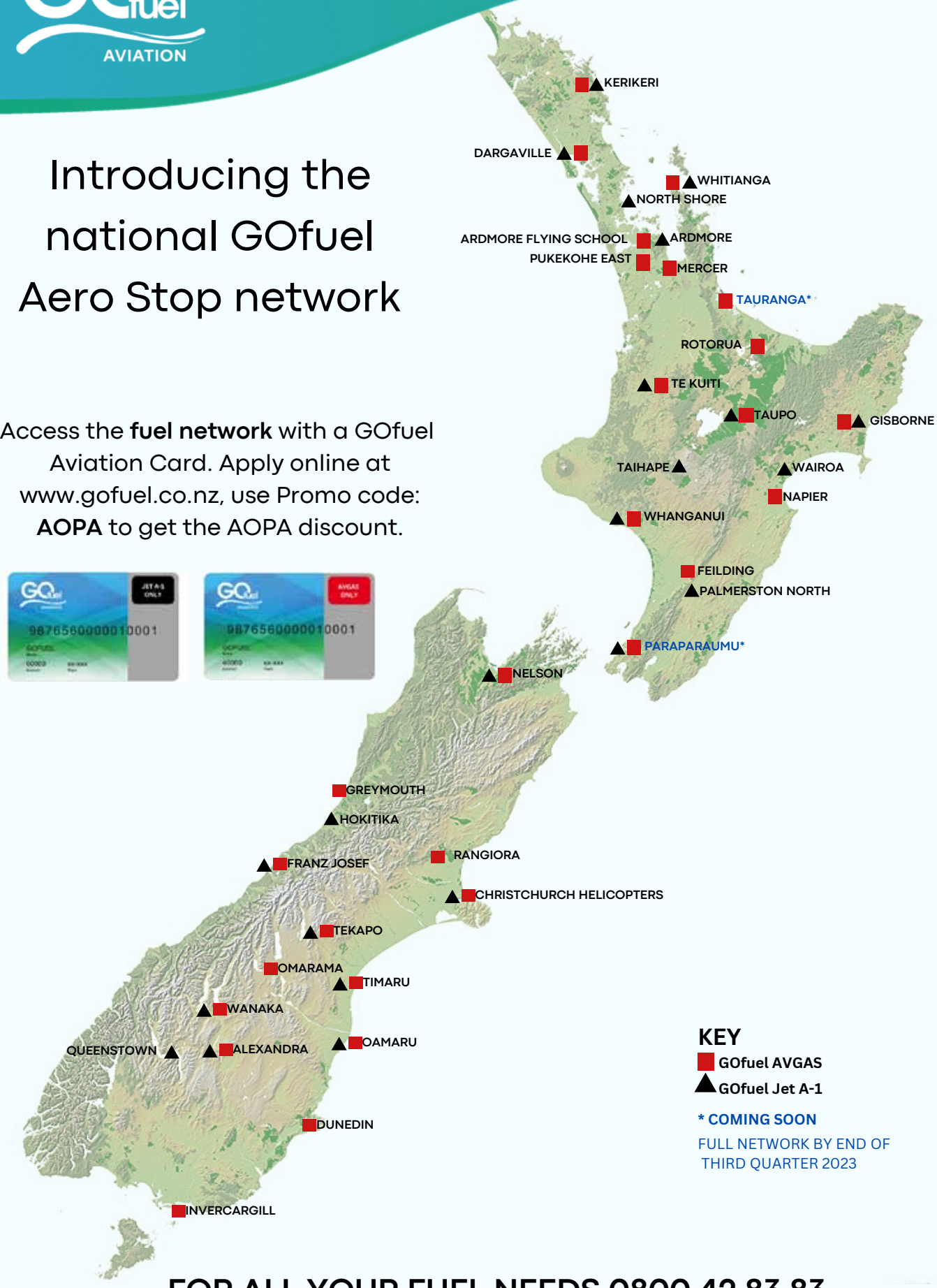
A go-around is always prudent if a tailwind or crosswind is sensed, or if the pilot simply feels something is not right. Many landing and take-off accidents are attributed to a 'freak' gust of wind. Good preparation, knowledge and situational awareness will minimise these occurrences.

Nathan Clarke is an A Cat Instructor & Examiner based at Rangiora. For training options visit ncflighttraining.com or ph 027317250

GOfuel AVIATION

Introducing the national GOfuel Aero Stop network

Access the **fuel network** with a GOfuel Aviation Card. Apply online at www.gofuel.co.nz, use Promo code: **AOPA** to get the AOPA discount.



KEY

GOfuel AVGAS

GOfuel Jet A-1

*** COMING SOON**

FULL NETWORK BY END OF THIRD QUARTER 2023

FOR ALL YOUR FUEL NEEDS 0800 42 83 83

Aircraft Profiles

*New feature for **RWY** on **Android***

Aircraft Profiles are New Zealand's latest and highly anticipated RWY feature, making the jump between fleet aircraft both swifter and more precise.

Simply enter the values from your aircraft's POH once, and these details will be automatically populated every time you create a new flight plan for that aircraft. Enjoy quick and easy plan submission straight to IFIS.

OzRunways
Electronic Flight Bag

Scan the QR code to experience the efficiency of Aircraft Profiles in action as you create a new flight plan.

ozrunways.com