Approach

THE NEW ZEALAND AIRCRAFT OWNERS AND PILOTS MAGAZINE
SUMMER 2018

Darfield fly-in
Portland Island picnic
Canadian CPL experience
Magneto checks

AOPA EVENTS • INDUSTRY NEWS & VIEWS • COMING EVENTS AND MORE

AOPA Approach

***ISSUE**: Summer 2018*

ISSN 2422-8230 / 2538-1083 (*Online*)

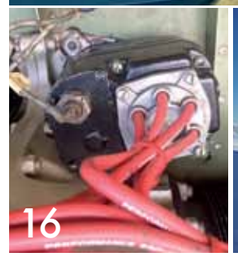
Coming events

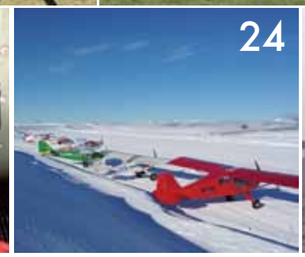
- *Back to Basics Fly-in Wairarapa, 25-27 January*
- *Healthy Bastards Bush Pilot Champs, 2 February 2019 Omaka Aerodrome*
- *Great Plains Fly-in, SAANZ, Ashburton Aerodrome 8-10 February 2019*
- *Wings Over Wairarapa 22-24 February 2019*
- *AOPA 2019 AGM, dinner & C Taylor Golf Tournament Rangiora, 15-17 March 2019*
- *ANZAC Fly-in Hanmer Springs, Easter 2019, tba*

For more information visit www.aopa.co.nz

Cover photo: Mahia Peninsula lunch stop *(see story, page 5)*

(Photo credit: Greg Quinn)





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Regular Columns

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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.

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Deadline for ads, articles and photos for the next (Autumn) issue: **20 January 2019**.

President's Report

Airspace, drones and landing rights have been filling our days recently; though I do remember some great and safe social flying also.

Drones and the regulations required to allow them to reach their potential are going to be the defining issues of the next decade. Medical reform is coming, albeit slowly; affordable modern instruments look to be coming too. However drone flying, especially autonomous or out of sight of the operator, does not appear to have a clear path to follow.

Most of the world accepts that below 400ft is an under-utilised area. We use it mainly for approach and take-off, but we do use it and cannot give it up. There is a general acceptance that this airspace will be made available to Remotely Piloted Aircraft; this will need new regulation. As for the airspace above 500ft, there is already clear and well established regulation for aircraft flying here; the system works pretty well. If the rules for this airspace are to be changed, then very good reasons would have to be put forward. We manage to 'detect and avoid' other aircraft and we expect them to do the same to us. Modern technology should make this possible.

GA, LSA and microlight aircraft pilots are going to have to face up to the facts that our freedom to use G airspace freely is being threatened by some very powerful (read wealthy) individuals and companies. New Zealand is seen as an easy place to test and develop these pilotless aircraft. I did not say New Zealand offers an easy place to fly – I tend to think the opposite. However pilots are few in number and have limited influence in the halls of power in Wellington.

I do not advocate just saying 'no' and objecting; if we do that we will eventually lose. We need to use our experience and knowledge to promote a system or systems which can allow the VTOL Uber taxi, the pizza delivery drone, etc, to go about their business; but also allow us to continue to fly safely with minimal extra regulation. Make no mistake, there will be a price to pay, and AOPA is committed to minimising the price paid in dollars and in limitations of freedom. For example, losing a great swath of airspace east of Alexandra or in the Hokianga Harbour would not be fair, sensible or safe. We are actively objecting to this sort of thing happening, but at the same time suggesting where remotely piloted aircraft can safely experiment.

Private and recreational flying has had very free and wide use of non-controlled airspace for as long as I have been flying, and it has been great. I flew for two hours in CXC a PA18/95 around the mountains this morning and I did not need to ask for one bit of permission; the radio was silent. We need to cherish these moments and not take them for granted.

Now for a bugbear… 50% of the requests for assistance recently made to AOPA have come from non AOPA NZ members or via a member about a non-member. Come on, let's get real: we spend a fortune flying representatives to Wellington to meetings where the AOPA NZ rep is often the only GA or light aircraft pilot in the room. I know our membership supports this and is keen for it to continue. If a non-member is trying to muscle in on our advocacy or avenues to the regulators, can you please suggest they join up first!

I am sure that the Canterbury 'fly around' based at Charlie Draper's will be well documented in this edition but I would like to put my spin on the flying day. We have placed 'safe flying' right up there as a major strategic focus of AOPA NZ. I was really heartened to see and experience the briefing our team was able to produce for this day. Firstly we received coordinates and google earth pictures of possible landing strips well prior to the flying, on the 'fly around' day we received a sheet of paper with the strips which were available and suitable on the day, ie, not too wet and no livestock. Then we had a verbal briefing from guys who had been into the strips; lastly we had an array of opened up cardboard boxes with felt pen diagrams about the tricky strips. Well they coped with the early learners who wish to study the strips in the days prior; then on the day we had accurate information. It was presented in ways which suited both the pilots who prefer verbal explanations plus it suited the visual learners too. I took pictures of the diagrams and can you believe it, flying first into Flock Hill Station, every paddock looked the same and the painted fence posts were really only visible from 50ft so we got the phone out and looked at the photos… Excellent result and well done team.

Steve Brown, President

AOPA News

Back to Basics Wairarapa: 25-27 January 2019

On the heels of the highly popular Central Otago 'Back to Basics' summer fly-ins of the last few years, a group of North Island AOPA members are hosting a 'Back to Basics' Fly-in in the Wairarapa this coming summer.

A broad, picturesque valley east of Martinborough will be home for this event, and you do need to bring all the camping gear. It is a genuine 'basics' event (toilets but no showers!), kindly hosted by the Campbell family.

We will gather on Friday, visit a variety of strips and meet up for a shared picnic lunch and a swim at Flat Point on Saturday, and wind down and head home on Sunday. Evening meals and breakfasts will on site and are BYO. The woolshed complex offers a fridge, BBQ and gas hob. Bring a thermos and plates, cups and cutlery. There is a pristine river nearby which should keep you cool and clean.

Also bring a strong sense of flying safety and good current flying skills. Long strips are less common in the North Island. Strips will be in the 500-600m range with good approach – ample for a 'two plus luggage' C172 or PA 28 if you are on your game.

Fuel is available at Masterton, ten minutes from the venue by air. Sunday could include brunch at Masterton airport café and a visit to the local aviation museum.

For full details and to register, visit www.aopa.co.nz

Digital Review

The Executive is reviewing how we administer our services, work together as an Executive, and interact with our members.

The focus is on the computerised components, especially the member-accessible part of our website.

If you have ideas that you think we should consider, **please tell us**. The best way to do that is to email ian.sinclair@aopa.co.nz or phone 027 4324150.

We appreciate and value your feedback so please get in touch.

A ripe old age

It has been quite a year for Aero Club anniversaries, with Marlborough, Hawke's Bay and Canterbury all reaching the venerable age of ninety.

Hawke's Bay & East Coast Aero Club, based at Hastings Aerodrome, marked its 90th anniversary late in October with a day for members that included a navigational competition followed by lunch, with a suitably aerodrome-themed cake cut by the Club Patron, John Holland.

Canterbury Aero Club marked the occasion with a vintage aircraft fly-in at West Melton, archive displays and dinner at 'Chateau on the Park' in Christchurch.

HB&EC Aero Club Patron John Holland cuts the 90th anniversary cake, with Club Captain Graeme Bycroft standing by.

Fifty years on at DTI

Dennis Thompson of DTI is about to mark a personal half century in the business of buying and selling aeroplanes.

The first step for Dennis was getting his pilot's licence. As his interest grew he assisted a couple of friends to purchase planes, an experience that led him to explore the commercial opportunities. From there he has never looked back.

Dennis has now sold close to 600 aircraft, both in New Zeland and abroad. But even at the half century, he is confident he still has a few more planes to go.

A warm welcome to new members:

Hamish Alexander, Matakana, Husky A1 B RBC; Grant Andrew, Timaru, Cessna 172 DAW; Fred Coates, Hastings, Cessna 206 FWC; Neville Cunningham, Timaru, Cessna 182 NJC; Andrew Currie, Rangiora, Cessna 185 MHB; Graeme Detlaff, Christchurch; Chris Douglas, Whangarei, Cessna 177 RG KCW; Luke Frogley, Tokoroa, Cessna 152 EOJ; Paul Godfrey & Doreen Hair, Kaiapoi, Skystar Kitfox IV JFA; Grant Harnish, Paihia, Cessna 150M LRD; Terry & Trace Hitchman, Feilding, Cessna 182 H DCD; Blair Huston, Auckland, Cessna 182 SLL; Ivan Jones, Porirua, Cessna Cardinal DRU; Murray Lancaster, Cheviot, Piper PA18 CXC; Po-Cheng Lin, Auckland; Martin Lobb, Tauranga, Vans RV7A MEL; Andrew Mahuika, Christchurch, Piper Cub PA18-160 BNX; Hamish Martin, Blenheim; Barry McAuliffe, Stoke, Cessna 172N NPF; John McClelland, West Melton; Bruce McGregor, Napier; David McMullin, Hamilton; Carl Portegys, Kingston, Rans S12 Airaile RED; Mel Poulton, Woodville; Kiri Raharuhi, Richmond; James Rogers, Taihape; Amanda Rutherford, Christchurch, Cessna 172M YAH; Philip Ryan, Auckland, Cessna C172M DXJ; Andre Schneider, Queenstown, Cessna Cardinal 177B MRL; Duncan & Anna Sharp, Auckland; Alan Simpson, Richmond; Kevin Slattery, Rangiora, Aerospool WT9 Dynamic DYK; Howard Smith, Marton, Cessna A150M EHP; Wallace Steel, Turangi, Carbon Cub CC11 CSS; Craig & Annette Steele, Whakatane, Bolkow BO 208C Junior CJH; Paul Stewart, Christchurch, Cirrus VMA; Hamish Umbers, Wanaka; Sam Veale, Palmerston North; Robert Wagner, Papakura, Cessna 172 JAZ; Charles Wilson, Te Awamutu, Cessna 182P DNZ

From the Vice-President

I was recently lucky enough to attend the Australian equivalent of our SAA annual meeting and fly-in. I figured that there would be a large attendance of amateur-built aircraft, however I was surprised to find a plethora of production-built light sport types while amateur-built didn't really register. At least six different manufacturers had several very smart models on display, most with very sophisticated electronic systems with autopilot. The interest in them was huge. With capabilities and price tags to compete with our ageing GA fleet, one can understand the interest.

The light sport fraternity is very large and well organised that side of the ditch. In New Zealand we are seeing increasing numbers amongst our members; something we should recognise and accommodate at our fly-ins.

The trip was also an excuse for Marie and me to enjoy the Hunter Valley region, during which I had the opportunity to catch up with the head salesman of Dynon. Dynon is great equipment and most of you probably know how much I support it. I am concerned, however, that their approach to pricing their new Certified product, keeping the price on the units down while the purchaser pays an STC for their aircraft to cover the extra expense of certification, is problematic for our experimental market, where in nearly all cases there will never be an STC.

In the US there's no problem; with the exception of primary navigator you can use non-certified units if they are checked fit for purpose. Try telling our CAA you want to fly IFR on anything not certified! Kurt assures me a solution is coming. I guess it will involve dollars.

While on the subject of Dynon, there has been some negative publicity about their ADS-B transponder unit. It is a certified Trigg unit with Trigg paperwork. Unfortunately, some have installed it with the original Dynon GPS unit, which is not fit for purpose. Dynon are selling a 2020 unit, which has been cleared for up to Class 1, and Class 11 in the US. Be careful, as our CAA is talking about it not being certified as such here. The fact that it is okay in the greatest airspace in the world in a system they invented and are putting into place before us...

Be safe and enjoy the licences you hold. They are easy to lose one way or another.

Graeme Donald, Vice-President

Portland Island picnic

By Greg Quinn

This is what flying is all about. A few days in advance of a long weekend, Central Hawke's Bay Aero Club proposed a trip to Portland Island. The weather on the day was perfect: fine with light northerlies, afternoon sea breezes and a high of 18°C. I was hitching a ride with Hamish Ross in his classic 1959 C182, BHP.

It was my first Club fly-in so I didn't know what to expect, but indications were all good. Departure from Hastings Aerodrome was scheduled for 10.30am, allowing time for the group of around fifteen pilots and passengers from Hastings (NZHS), Waipukurau (NZYP) or their home strips to gather.

We departed from 01 starting our track for Napier seaport, making a call to Napier Tower, which was followed by a flurry of calls from the other half dozen aircraft on the trip. This influx of unplanned traf-






Clockwise from top left: Mahia Peninsula; Rocket Lab's launch complex; lunchtime wandering; finals at Portland Island; Port of Napier; catchup at Coop's.

probably hoping he wouldn't be on shift to deal with our entourage's return.

The flight north along the coast from Napier to the Mahia Peninsular was smooth and showcased Hawke's Bay's real beauty, from the Kaweka ranges with their light dusting of snow to the aquamarine glass of the South Pacific Ocean.

Our first port of call was Richard Coop's, a roughly 400m long strip with a gentle uphill gradient on Mahia Peninsula. This was a chance for the fleet to convene, for friends to catch up and for newbies like me to meet everyone. Richard and his family were pretty excited about having us all there. With their aircraft having been out of action for a while due to an engine strip down, this was a chance for these flying enthusiasts to get their aviation fix.

With stomachs starting to grumble at 12.30, it was time for us to say our thanks and goodbyes to the Coops and head for Portland Island, only a ten minute run south. This leg of the journey was for me the most spectacular as we were treated to a flyby of Rocket Lab's Launch Complex 1, on the very tip of Mahia Peninsula – New Zealand's very own Cape Canaveral. If you want to know more about this inspiring project, visit https://www.rocketlabusa.com

A few minutes on was our picnic stop on Portland Island. This isolated outpost has quite a history. Six hundred years ago it was a Maori settlement, more recently a whaling station which saw many a shipwreck, today it is used only for grazing.

We were lucky enough to get permission to land for our lunch. The Island was given its name by Captain Cook, due to its similarity to Portland Island in Dorset, UK. At 3.2km in length, 700m at its widest point, and 100m at its high point, the top of the island is almost flat to the cliff edges. The low northern tip of some 20ha is flat, providing us with our 400m or so of landing strip dotted with tussock.

All seven aircraft safely down, it was time to sit back and take in the remarkable beauty of our surroundings, and for a few keen explorers to wander off and, well, explore. I was content just to sit back and take it all in, chatting with my new friends, feeling lucky just to be there basking in the epitome of a flying trip: perfect weather, great company and truly extraordinary surroundings.

Appropriately fed and watered it was time to say our goodbyes and depart for home. With perfectly clear skies and a light sea breeze, the journey south was a quiet one, a time for reflection on the day's experiences. The flight to Bridge Pa took us over the Port of Napier and almost directly over the 'Majestic Princess', the first cruise ship of the season – a sign that summer had begun.

By 3pm we were back on the ground at Bridge Pa, tucking the plane back in the hangar and contemplating the chores replaced by the day's adventure. This really is what aviation is all about!

ADS-B: NZAF takes a stand

By Ian Andrews, President, NZ Aviation Federation Inc

As you know we will have to equip all our aircraft with ADS-B out transponders by 2021. I have been involved with this development since about 2008, and remember Rob Irwin from Airways speaking about it at an AGM in Karamea some years before.

ADS-B is a 'system'. It relies on equipment both in the aircraft and on the ground, just as we have now with SSR surveillance. The difference lies in the cost of the system. ADS-B places a lesser cost on the Air Navigation Service Provider (ANSP) and more on the aircraft owner.

Both systems are for the safe separation of air traffic overall, but mostly in controlled airspace, where we have large numbers of the travelling public riding in tubes of metal or plastic. It is our responsibility as a country to protect our citizens from harm, and Air Traffic Management is one of the tools used to do this. The current system does that with minimal cost to GA.

The benefits fall to Airways Ltd, while much of the cost is being borne by the GA sector.

Unfortunately for GA, the cost has reversed with ADS-B. The NZ Aviation Federation (NZAF) has for years been talking with CAA and Government about the need to spread this cost across all users of the aviation system, including the travelling public. No proposal has been forthcoming so, with only three years until the proposed mandate comes into force, NZAF has decided to make a formal public statement about what we consider a fair proposal.

NZAF represents over 10,000 aviators and enthusiasts who operate over 3800 aircraft on the NZ register. When ADS-B was proposed by Airways NZ, we endeavoured to make it clear that we would be expecting a substantial contribution to the cost of equipage for GA Aircraft. The recent cost benefit analysis by EY Consulting shows that the benefits fall to Airways Ltd, while much of the cost is being borne by the General Aviation sector.

Additionally, the benefits to GA, while potentially large, are uncertain. The coverage of ADS-B is stated as being 45% greater than with existing radar, however that coverage is measured at 9000ft which is, at best, 6000ft above the operating level of many GA VFR aircraft. Furthermore much of the increased area is in uncontrolled airspace, where it will not be monitored by ATC. The safety benefits of ADS-B in uncontrolled airspace are not substantial enough to justify the cost of unmonitored certified equipment when compared to those of, say, Spider Tracks or Spot Tracker, which will give continuous tracking and reporting at a much lower cost of equipage.

The majority of the GA fleet is equipped with fully functioning mode C transponders which will have no resale value. Under ADS-B, GA VFR pilots will be able to continue doing what they are currently doing, but will have to spend substantial amounts of money for new equipment and installation costs to do it.

Airways NZ is a State-Owned Enterprise. It is essentially a service provider authorised as a Part 172 organisation. It has made a commercial decision not to replace the aging RADAR, which has reached the end of its useful life. However, it expects the customer to provide the equipment needed to identify their GA VFR aircraft when entering controlled airspace. This is like a bus company chosing not to replace the seating on the bus at the end its life, then expecting customers to bring their own certified seats to the bus stop for future journeys.

CAA are proposing a mandate that legitimises the decision made by Airways to not provide for asset replacement. Our understanding is that there is no ICAO requirement and there are no substantial safety benefits identified that make the cost to the customer acceptable.

NZAF does not consider it reasonable to expect GA to subsidise the service provider's capital asset replacement costs. These costs are currently recovered by a service fee charged to all customers as they use the services, and this model should continue as it fairly distributes the costs on a user pays basis.

Lessons learnt, fun shared

By Richard Eberlein

Philippa and I have been members of AOPA for a few years but have never ventured along to any events. Shy, apprehensive, embarrassed at not owning a plane – whatever. This time though, we sucked it up and signed up for the Darfield Fly-in. And am I pleased that we did!

With our pilot friends, Lesley and Kiri, and the Club's Cessna 172 ETU we flew down from Nelson in perfect conditions, making pilot changes at Kaikoura and Rangiora. There we filled the tanks – making my first mistake.

I flew on to Charlie Draper's farm just outside Darfield, intent on making a perfect landing as I was certain that all the life-long AOPA members would be watching. My landing was perfect but nobody even noticed! We parked the plane, worrying that it would be in the wrong place, pointing the wrong way or just standing out like a sore thumb, but there were some other 172s and a few other non-tail-draggers, so we began to feel a little less out of place. Using our newly purchased Claw Tie Downs (brilliant, light, easy gadgets) I left the female passengers to sort out the plane whilst I got chatting to other loitering pilots. I was soon feeling pretty welcome.

Charlie had organised a fleet of cars to transport folk to our motel in Darfield where we soon found ourselves chatting with Murray and Claire Paterson and as many members as could be packed into their room.

9am Saturday saw us at a cold briefing offering a choice of long/wide, med/med and short/narrow strips. As a novice I chose long/wide and joined a team of fourteen planes organised by Ian Sinclair. He soon had two of my passengers in other planes to reduce my load and described the day, the strips and how he was going to help me. And that he did.

Jellico strip on the Rakaia river beyond Lake Coleridge was our first stop. Ian landed first and was then on the radio to guide me in, giving confidence or urging

a go round. I landed on this rough and uphill strip with a bit of a bump but didn't disgrace myself too much. Once all other planes and a helicopter were on the ground we took a walk around Jellico Hut and chatted with other members. An archetypal Kiwi hut in a beautiful spot.

Then we were off, a bumpy downhill take-off over stubby tussock and a short flight to Bruce Nell's long uphill strip on a terrace above the Rakaia. A good approach and a smooth landing on grass, continuing up to join the other planes at the top of the hill. I was getting good at this! And cocky and complacent! But a lesson was to come.

Ian Sinclair left first to suss out the next strip at Castle Hill as it was known to be short, over a fence and of variable direction. Ian, in a C172 with a low-powered engine, took off uphill and into a light breeze. A Bearhawk and a C180 with larger engines left next, but as we were all parked at the top of the hill and they had more power, they took off downhill despite a slight tail wind. A few more followed before I, like a sheep, followed suit. I learnt from this to think before following others.

Our little 160hp in a fuelled up C172 struggled over the fence at the bottom of the paddock doing what seemed like 40knots, slow enough to make my passenger suddenly become all fidgety. Once we had made the fence I kept the plane low over the ground gaining a bit of speed before gently climbing to try to avoid the pine trees. Very fortunately, there was a wide enough gap to fly between them and between the rock formations behind.

My left hand was tight on the yoke and my right was trying to push the throttle through the instrument panel. I was stuck to the seat with sweat and hadn't dared to breathe for some time. My silent passenger gulped air and said 'Phew'. We had survived. Not a good way to learn a lesson. Following like a sheep I had nearly became a lemming.

At Castle Hill there is a small, level, square field with a barn in the corner, surrounded by a few trees and wire fencing. By the time we got there several planes were on the ground. Ian was standing next to a length of fence that he had taken down. His radio call confirmed that the gap in the fence was wide enough for even me to fit, and that I could land either before or after the fence-line. He didn't say that on the fence line itself there was quite a hollow and ridge. I landed smoothly just before the fence, hit the ridge and we were flying again – I hope nobody saw it because it must have looked awfully like a bounce! Soon we were off again to Lou McAllister's farm back on the Canterbury Plains near Cust.

At Lou's we were meeting up with all the other teams for a picnic lunch. It proved a long grass paddock strip, with several planes already on the ground and a couple in the circuit. As we approached we

spotted more. I called in my intentions; I've never been No 9 to land before! Even then, others thought the circuit too wide and cut in lower and inside. Not safe.

After lunch we looked around Lou McAllister's toys. Historic tractors, fast cars, a National 90hp diesel power plant generating 65kVA dating back to 1940 from Wigram. The unit had been recently restored by Lou who proudly started it up. A Dodge Viper made a lot of noise for us but was surpassed by a high-speed fly past of a replica Spitfire. With the strip lined with 35 or more aircraft and all the other surprises, lunch had become a real treat.

Replete and well-watered, our team had a change around. My wife Philippa continued her day with Richard Bradley in his Citabria, apparently much better than flying with me! Kiri joined John Carter in his C180 while Lesley joined me as co-pilot. Both Kiri and Lesley remained shy of flying, but things would change.

Avoca strip next. I am told that it was named after Avoca train station, but the strip seemed to be in the middle of nowhere, no station visible, and so deep up the Waimakariri River that we were off the

Broken River and onto Slovens Stream. There is indeed a train station on the map and I saw a railway line, but little else. The strip was long, slightly uphill and bumpy but manageable. Not a bad landing, a good take-off and my new passenger was feeling confident.

The next briefing was for a short flight around Craigieburn to the Mt White strip, which proved level and long but with a sharp drop off at the northern end with a warning of shear. We watched others and followed a left-hand circuit for a southerly landing. This took us over some foothills before dropping over a deep gorge. All was good except that my base leg was far too tight and I was very high. At the same time there was talk on the radio about a wind change and recircuiting for a northerly landing. This partially explained my tight circuit and extra height, but there is no getting away from my poor flying.

With three other planes I recircuited for the other end of the strip. I went wide to lose time and distance myself from the other planes, but when on late finals the plane ahead was still not on the ground, I opted for a go-around. After a re-circuit I was successfully on the ground for the usual banter and a snack.

The excitement of my two failed landing efforts had sparked courage into my co-pilot and she decided to fly the next leg. The strip was called DC3; apparently where DC3s planned to land if they couldn't use Christchurch during WWII. With a wide valley to the north and steep landscape to the south, it proved a stony dog-legged, barely distinguishable strip. We flew past without even seeing it. A chance glance over Lesley's shoulder revealed a couple of planes on the ground and we returned to it, decided the northern dog-leg looked long enough, and made a wide circuit to give plenty of time for preparation for her first strip landing. And it was good, no bounce, controlled, smooth and considered, but stressful.

The final option for the day was to fly into Flock Hill strip with Ian Sinclair. As we were on our return trip Philippa decided to risk flying with me, so I was back in the pilot's seat with my trusty navigator. I'd started the day wanting a pilot next to me to bail me out, but I'd learnt a lot over the day and was beginning to trust myself – dangerous! Kiri stayed on with John Carter and Lesley took Philippa's place with Richard Bradley.

Without my GPS program OzRunway I was totally lost, so Ian said to follow him to find Flock Hill Lodge strip. DC3 has a powerline at its southern end and we were worried the C172s might struggle to get over it. Ian gave me some advice and I could see Philippa wondering if she'd done the right thing. We talked about taking off in the opposite direction, but as we were speaking a southerly breeze kicked up and we all relaxed, knowing that we'd now get enough lift. As it turned out we were way up high above the wire and on our way to Flock Hill before we knew it.

Flock Hill has a short grass paddock. Easy to land on but the surface was like gentle waves. Up and down, up and down. I was worried about a prop strike and wasn't really sure whether it was best to brake or keep some speed up. Ian had landed first and later said that he was also worried about what I was doing as I careered toward him! Again, we survived, but it reminded me to keep that nose as high as possible.

Ian led me back to the Waimakariri River valley before departing for Rangiora for fuel, while we continued on to Draper's Farm after a day of the most enjoyable flying I've ever done. Reinvigorated after a couple of years of Club, competition and 'staying current' flying, I'm once again nagging Philippa about buying our own plane!

All planes safely back on the ground, the day wound up with an enormous take-away for seventy at the Darfield Rugby Club.

A huge thank you to Charlie Draper for hosting the event, Murray Paterson and Ian Sinclair for their organisation, John Carter and Richard Bradley for ferrying the Nelson team about, and to all other participants for their camaraderie and welcome. I'll be making an early reservation for a place next year.

Darfield: take two

Jellico Strip; the author second from right.

By Sarah Cullen

Having recently farewelled friends and family in the UK to move to New Zealand and join my boyfriend, Nicholas Oakley, I was expecting adventure amongst all that New Zealand has to offer – I just didn't expect it to start in my first week.

I'd been in New Zealand four days when, on Saturday 22nd September, we received a call from Nicholas' father, Michael. "Get yourselves to Charlie's, we're leaving in ten minutes."

Without knowing where we were going, who Charlie was, or what we would be doing, I grabbed a jumper and we headed out the door. What I didn't expect is that we would turn up at Charlie Draper's to find fifty-plus small planes and a helicopter parked up – the AOPA fly-in at Darfield.

Michael, who flies a Pregnant Piper Cub, had kindly arranged /persuaded a pilot to have a stowaway pom for the day, and I was lucky enough to fly with Paul Hood, in his Cessna 182. To be truthful, I was more used to flying with EasyJet, Ryan Air or China Southern with at least a hundred other passengers, so flying in a plane with only four seats was a whole new experience. Both Michael and Nicholas were used to this flying malarkey, both being pilots in the family running a Canterbury ballooning business and also keen glider pilots.

Even knowing that the day would involve flying, I still didn't expect such a scenic adventure, including visits to a dozen or more airstrips dotted all over the Southern Alps. It was an opportunity for me to really see what this country has to offer.

To name just a few, we visited Brooksdale, Manuka Point, Jellico, Avoca, Castle Hill, DC3, Mount White, Lochinvar, and flew over the Waimakariri River, the Rakaia River, Lake Pearson and Lake Coleridge. As well as managing to fit twenty plus planes onto Jellico, which is apparently unheard of, we had out of the ordinary weather for the Alps, with blue-sky, sunshine and no wind. We were even treated to a replica spitfire flyover when we stopped for lunch at Lou McAlister's property near Cust.

As the afternoon rolled on Paul headed for home, so I jumped in with Carl Jackson and Nicholas in Carl's Cessna 180. We called at a final three airstrips before being dropped off back at Charlie's. The whole day was an experience I will never forget, from listening to the pilots chatting over the radio, helping spot planes, landing on what seemed from the air to be tiny strips, admiring the breathtaking scenery… the list can go on. My new love has become aviation – sorry Nicholas!

Special thanks to Paul and Carl for letting me fly with you and showing me how beautiful the South Island is, and to the other AOPA pilots/passengers for being so kind and putting up with some very basic aviation questions. And a big thank you to Michael for giving us that last minute call!

AOPA Darfield Fly-in

September 2018

Photos: Brian Greenwood

AOPA NZ: working for you behind the scenes – and getting you into them!

Thoughts on safety *from Paul Hood*

Keeping safe in the air. There are a lot of spokes in the wheel of safety and an extremely important one is weather.

There are a range of variants that are relevant in assessing the impact of weather on your flying, from the performance of the aircraft to the visual ability and comfort of the pilot. These need to be considered alongside direct information from the array of weather forecasts and reports that are available.

Weather forecasts and reporting has come a long way in recent years. Metvuw, MetService, Windyty and Yr are all good forecasting sites that can be used days out from a planned flight. All these sites are available as apps, along with many more apps that aim to assist. Check them out sometime.

It is a good idea to start monitoring the forecast days ahead of your proposed trip. You will see a weather pattern as it develops, but be aware that these patterns may and often do change as the planned departure date approaches. I find that the best sites on the day are MetFlight and Windyty.

Windyty gives you wind speed and direction at different levels; percentage of cloud cover, cloud base and cloud top – all handy information for the aviator.

MetFlight is designed for the aviator and, thanks to AOPA, is now free to all pilots, although you will need your licence number and licence issue date to log in. Be aware that you must use your most recent licence details. For example, if you have acquired an RPL you will need to use the issue date on that licence.

Commercial MetFlight offers a bit more information than MetFlightGA, and can be obtained from your local Aero Club or flying school.

MetFlight has a new improved format that gives cloud information and freezing levels in a graphic form that is overlaid on a map of New Zealand. It also has a graphics page that gives moderate weather conditions in a similar format to the Segment page. Wind METAR and TAF format haven't changed.

You can still access plain English MetFlightGA via your AOPA website. You will need your login and password.

Metvuw is also available via the AOPA website.

In addition, there is a good selection of live webcams on the AOPA website, which provide excellent real-time weather – just remember to check the time and date on the camera to ensure the picture is in real time and not an image from some time in the past – it does happen with webcams.

Another excellent app is IFISMOBILE which is great on the tablet or iPhone. It also has TAF, METAR, SIGMET and all of the ATIS, and in addition to the weather it has the NOTAM.

A cautionary tale

Back in August myself and crew where bringing our boat home from Fiji via Noumea. On reaching Noumea we had difficulty accessing data, so we worked on a two day old forecast: bad choice! The two day old weather forecast showed a small window of good conditions off North Cape – but as you might have guessed, it had changed when we arrived 200nm off the Cape. Five to seven metre sea coming from two different directions is very hard on boat and crew. Twenty-two hours at eight knots instead of twenty two knots.

What went wrong? We weren't working with an up-to-date good quality forecast, which was especially a risk when targeting such a small weather window. On top of that we were keen to get home - yes, that familiar ailment of 'get-there-itis'. It proved an expensive and uncomfortable mistake.

So before getting the aircraft out of the hangar, be well briefed and, if you are not comfortable with the weather situation, leave it in the hangar!

To all the pilots in the same group as myself at the Darfield Fly-in, what a day, made great by good airmanship. I'm sure the weather assisted in the airmanship; it certainly added to the enjoyment factor for all who attended.

'Knows ya nose' *(if you have one)*

By Ian Sinclair

I was watching people come and go during the Darfield Fly-in the other day and it struck me that, for a large number of tricycle undercarriage aircraft, there was a considerable amount of prop clearance available by doing two simple things.

The first is to get to know your nose wheel and, specifically, if you have a pneumatic nose strut, ensure you know how to inflate it.

My experience has mostly been in Cessna 172 types and, during the time I have flown them, I have needed to adjust the oleo, usually by adding air, more times than I can remember. If I am going to a fly-in and doing landings off airfield, I like to make sure the oleo is inflated to the mid to upper range.

If you are not familiar with how to adjust your oleo, ask your engineer next time you are in for a check. The key is to add air when there is no weight on the nose wheel.

The second thing you might do involves adding to your pilot technique by using more elevator-back during landing roll, taxi and take-off roll. Use as much pole back as you can on the landing roll out once your mains are on the strip, assuming conditions allow, and full pole back while the motor is running or while you are taxiing, assuming the wind allows.

Use the elevator to control the nose to be more up via positive back pressure during the initial take-off roll.

These techniques can add a significant amount of prop clearance. They also offer the advantage, during take-off roll on strips, of increasing the percentage of the aircraft's weight sitting on the main undercarriage and reducing the weight on the nose wheel. With the nose wheel lighter and the nose up, the aircraft feels like it can absorb more undulations and rough.

To add more nose-up to your pilot technique library, practise it at an airfield or strip that offers plenty of margin. Compare your landing and take-off performance to the performance of your current technique, and ensure you understand any performance changes. You can gauge your prop clearance by looking out over the cowl. Higher cowl equals more prop clearance.

For landings off airfield, make sure the oleo is adjusted to the mid to upper range.

The Savvy Aviator on

The mag check

Are you doing it right?

By Mike Busch, CFI, A&P, IA

(With thanks to the author & AOPA USA)

From your first days as a student pilot, you were taught to perform a 'mag check' as part of each pre-takeoff run-up. But do you know how to do it correctly, what to look for, and how to interpret the results? Surprisingly, many pilots don't.

To begin with, most pilots' operating handbooks (POH) tell you to note the rpm drop when you switch from both magnetos to just one, and give some maximum acceptable drop and sometimes some maximum acceptable rpm difference between the two mags.

For example, the POH for my TCM-powered Cessna T310R specifies that an rpm drop of more than 150 rpm on either mag, or a difference of more than 50 rpm between the two mags, is unacceptable. Many Lycoming-powered aircraft specify a maximum drop of 175 rpm and a maximum difference of 50 rpm (see sidebar).

EGT method

In my view, however, the rpm drop method makes little sense for aircraft that are equipped with a modern digital engine monitor. Exhaust gas temperature (EGT) rise is a far more reliable and revealing indicator of proper ignition performance than rpm drop. Consequently, I recommend focusing primarily on the engine monitor, not the tachometer, when performing the mag check.

Look for all EGT bars rising and none falling when you switch from both mags to one mag. The EGT rise will typically be 50°F to 100°F, but the exact amount of rise is not critical. In fact, it's perfectly normal for the rise to be a bit different for odd- and even-numbered cylinders. Also look for smooth engine operation and stable EGT values when operating on each magneto individually. A falling or erratic EGT bar or rough engine constitutes a 'bad mag check' and warrants troubleshooting the ignition system before flying.

Most engine monitors have a 'normalise mode' that levels all the EGT bars at mid-scale and increases the sensitivity of the display. It's a good idea to use this mode during mag checks because doing so will make any ignition anomalies far more obvious. Bring the engine up to the manufacturer-specified run-up rpm (commonly 1700 for direct-drive TCM engines, 1800 to 2000 for Lycomings), place the engine monitor in normalise mode, perform the mag check (BOTH-LEFT-BOTH-RIGHT-BOTH), then return the engine monitor to its default mode (sometimes called 'percentage mode').

In-flight mag check

The usual pre-flight mag check is a relatively non-demanding test and will only detect gross defects in the ignition system. To make sure your engine's ignition is in tip-top shape, I suggest performing an in-flight mag check at cruise power and a lean mixture – preferably a lean-of-peak (LOP) mixture.

An in-flight LOP mag check is a far more demanding and discriminating way to test your ignition system because a lean mixture is much harder to ignite than a rich one. A marginal ignition system can pass the normal pre-flight mag check, but it takes one in excellent shape to pass an in-flight LOP check.

The in-flight mag check is performed at normal cruise power and an aggressively lean mixture (preferably LOP). Run the engine on each individual mag for at least 15 to 20 seconds while watching the engine monitor in normalise mode. Ensure that all EGTs rise, that they are stable, and that the engine runs smoothly on each mag. Don't expect any rpm drop, at least if you have a constant-speed prop. Focus primarily on the EGTs, and secondarily on any perceptible engine roughness when running on one mag.

If you see a falling or unstable EGT, write down which cylinder and which mag, so you or your mechanic will know which plug is the culprit. If you don't write it down, I guarantee you'll forget the details by the time you get back on the ground. (Don't ask me how I know this.)

When doing a mag check, focus primarily on your digital engine monitor, not your tachometer. A non-firing spark plug or faulty ignition lead affects only one cylinder; a faulty mag affects all.

Bad mag checks

If you perform a mag check (ground or flight) and don't like what you see, then what? How can you tell what's wrong, and what you should do to correct it?

To begin with, the phrase 'mag check' is a bit misleading. The vast majority of 'bad mag checks' are caused by spark plug issues, not magneto issues. We should really call it an 'ignition system check'. Using the EGT method, it's usually easy to tell whether a bad mag check is due to a spark plug problem or a magneto problem. A faulty spark plug (or, more rarely, a faulty ignition lead) affects only one cylinder (i.e., one EGT bar on your engine monitor), while a faulty magneto affects all cylinders (and all EGT bars).

If you detect a non-firing spark plug during your pre-takeoff run-up, one common cause is oil fouling. You can try to clear an oil-fouled spark plug by running the engine for 30 seconds or so with the mixture leaned out to peak EGT (or peak rpm if you don't have an EGT gauge). If that doesn't cure the problem, then the plug may be lead-fouled or damaged, and you'll want to have it inspected and cleaned or replaced before flight.

On the other hand, if you observe a non-firing plug during an in-flight mag check, there's usually no need to panic because the cylinder will not be damaged by running on only one plug. If the engine runs smoothly on both mags, simply proceed to your destination and deal with the problem when you get there.

Mag timing issues

During a pre-takeoff mag check, if you get an excessive rpm drop when you switch to one mag but all EGTs rise and the engine runs smoothly, chances are that it's not a bad magneto but rather retarded ignition timing (i.e., spark too late). This is sometimes caused by mechanic error in timing the mags during maintenance (especially annual inspections), but it can also be caused by excessive magneto cam follower wear (possibly due to inadequate cam lubrication) or some other internal mag problem. Retarded ignition timing also results in higher than usual EGT indications. Mildly retarded timing is not a serious problem, but it does cause some loss of performance, so it should be addressed.

Lycoming's guidance on mag checks

In June 2010 Lycoming issued Service Instruction No. 1132B, revising its guidance on how pre-flight mag checks should be performed. Some highlights of this service bulletin:

- Engines with fixed-pitch props should conduct the mag check at approximately 1800 rpm (2000 rpm maximum). Those with controllable-pitch propellers should use 50 percent to 65 percent power as determined from the manifold pressure gauge (unless otherwise directed by the POH).
- Maximum allowable mag drop is 175 rpm for each magneto, and 50 rpm difference between magnetos.
- If mag drop exceeds 175 rpm, lean the engine to peak rpm and then repeat the mag check at the newly leaned mixture.

Conversely, advanced ignition timing (i.e., spark too early) results in lower than usual EGT indications and higher than usual cylinder head temperature (CHT) indications. Advanced timing is a much more dangerous condition because it can lead to detonation, pre-ignition, and serious engine damage. If you observe low EGTs and high CHTs after an aircraft comes out of maintenance, do not fly until you've had the ignition timing rechecked.

High-altitude misfire

We've already seen that it's more difficult to ignite a lean mixture than a rich one. In turbocharged airplanes, there's also another factor to consider: altitude. The higher a turbocharged airplane flies, the more difficult it is for the spark to jump the gap between the spark plug electrodes, and the more likely that the spark will instead 'arc-over' inside the magneto itself.

Such 'high-altitude misfire' is bad for two reasons. First, it can cause the engine to run rough – sometimes frighteningly, change-of-underwear rough. Second, it can damage the magneto internally and in extreme cases cause the magneto to fail mechanically. This is not a good thing.

There are two fundamental strategies for preventing high-altitude misfire: make it easier for the spark to occur at the spark plug gap (where it belongs), or make it harder for it to arc-over inside the mag (where it doesn't).

The easiest way to make it easier for the spark to occur at the spark plug gap is to tighten up the gap.

Most aviation plugs have specs calling for a gap of 0.016 inch and 0.019 inch. Keeping the gap at the tight end of the range (0.016) provides increased resistance to high-altitude misfire. Because the gap increases as the plug wears, it's important to re-gap the plugs regularly, typically every 100 hours or less for a turbocharged engine.

There are two ways to make it harder for arc-over to occur inside the magneto during high-altitude flight. One is to use a magneto that is physically large, which greatly reduces the likelihood of internal arc-over between widely spaced components. For example, the TCM/Bendix S-1200 mags I use on my Cessna T310R have distributor block electrodes spaced 1.2 inches apart, nearly twice as far as smaller mags like TCM/Bendix S-20s and Slick 6300s. However, the S-1200s are a good deal heavier and more expensive than their smaller brethren, and are too large to fit in some engine installations (such as cross-flow TCM -550s).

The other way to inhibit arc-over at high altitudes is to pressurise the mags with upper-deck air. This works well, but it's something of a mixed blessing. Pressurised mags tend to have more problems and need more frequent maintenance than unpressurised mags, because the pressurisation pumps most air through the magnetos (particularly when flying through clouds and precipitation) and often causes corrosion and contamination issues.

Preventive maintenance

Regular preventive maintenance is the key to good ignition performance. Every

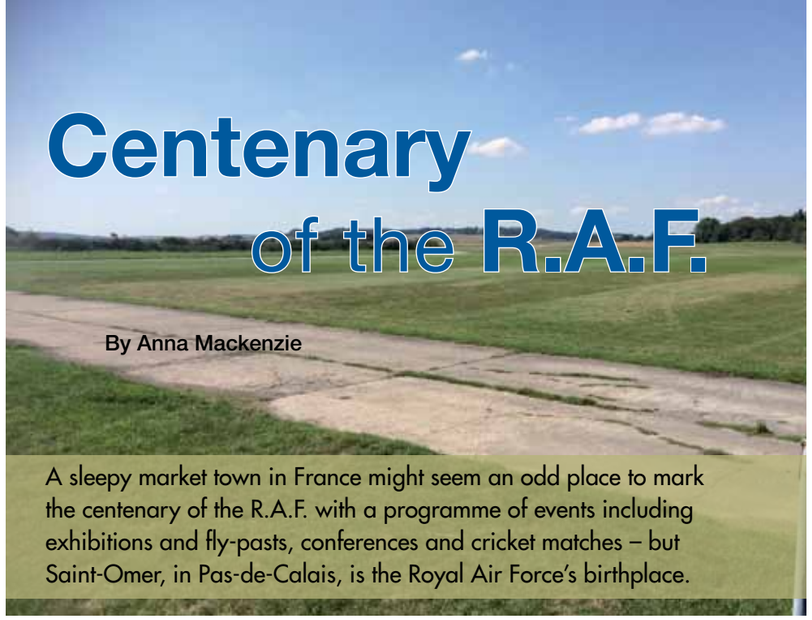
To prevent high-altitude misfire, keep plugs gapped at the tight end of the allowable range.

100 hours, the plugs should be removed, cleaned, gapped, rotated, and reinstalled, and the ignition timing should be checked and adjusted if necessary. When the plugs become excessively worn, they should be replaced with new ones. Conventional massive-electrode spark plugs typically last 400 to 500 hours; fine-wire (iridium) plugs can go nearly three times as many hours, but cost more than three times as much. (NB: I'm not a big fan of fine-wire plugs and use conventional massive-electrode plugs in my aeroplane.)

Every 500 hours, the magnetos should come off the engine and go through a complete disassembly inspection, lubrication, adjustment, and reassembly process generally referred to as a '500-hour IRAN' (inspect and repair as necessary). Although many shops and mechanics do this magneto IRAN in-house, I prefer to send the mags out to a magneto specialist like Aircraft Magneto Service, because it has the specialised knowledge and test equipment to do the job right. Some shops and mechanics simply replace the mags every 500 hours with overhauled/exchange units, but in my experience this costs about twice as much as sending the mags out for IRAN, so (being a congenital skinflint) I prefer the IRAN route.

In addition, I recommend giving the ignition system a 'stress test' every few flights by performing an in-flight LOP mag check, and taking prompt corrective action if less-than-optimal ignition performance is observed.

Please note that in New Zealand there are ADs which mandate magneto inspections.



Centenary of the R.A.F.

By Anna Mackenzie

A sleepy market town in France might seem an odd place to mark the centenary of the R.A.F. with a programme of events including exhibitions and fly-pasts, conferences and cricket matches – but Saint-Omer, in Pas-de-Calais, is the Royal Air Force's birthplace.

Bruyeres Airfield at Longuenesse, St-Omer; mechanics work on a bomber; Bleriot IX.

At the onset of WWI, aviation was viewed as potentially useful for observing troop movements and monitoring the impact of artillery bombardments. The fledgling Royal Flying Corps (RFC) proved its worth in August 1914 at the Battle of Mons, when aerial surveillance preserved British troops from complete decimation.

Over subsequent years, the nascent Air Services were additionally tasked with air combat, bombing missions and the machine gunning of troops on the ground.

The propaganda machine inevitably chose to focus on air combat, and public imagination on both sides was gripped by tales of dogfights and 'Air Aces' (officially acknowledged after five recorded kills, with Manfred von Richthofen, the Red Baron, claiming 82 enemy aircraft downed before his death in 1918, closely followed by Frenchman René Fonck with 75, and Canadian Billy Bishop, attributed with 72, both of whom survived the war).

From 1914 to March 1918, Allied air services were provided by both the RFC, under General Trenchard, and the Royal Naval Air Service (RNAS). On 1 April 1918 they were amalgamated to form the Royal Air Force (RAF), under Trenchard's command and based at St-Omer.

St-Omer et la Royal Air Force 1918-2018, the first exhibition I visit, is tucked into the Jesuit Chapel on a cobbled and curving side steet. Don't be misled by the name – the chapel is vast, the soaring nave providing ample space for a full-size replica of a Bleriot IX. Based on the aircraft flown by Louis Bleriot across the Channel in 1909 and the first aeroplane to be supplied to the newly formed RFC in 1912, the Bleriot IX was used for reconnaissance and training in 1915.

Surrounding the flimsy-looking monoplane, reconstructions of accommodation huts, workshops and supply depots provide a sense of the camp. Original cine film of target practice and squadron briefings, audio clips and photographs, supply a human touch. In 1916 pilots apparently baulked at dropping flechettes – giant metal anti-personnel darts. Looking at a case of them, I can understand why.

A high point of the exhibition is the opportunity to test oneself at the controls of an era-appropriate flight simulator – and I'm doing okay until the Fokkers turn up.

Named after the Dutchman who developed the revolutionary mechanism that allowed a machinegun to fire through the propeller, the introduction in spring 1915 of the Fokker Eindecker saw the Germans dominate the airspace of the Western Front. The British caught up a year later with a two-seater fighter which allowed simultaneous firing fore and aft by both pilot and observer. Aerial supremacy swung back and forth over subsequent years, the slaughter wrought by the German Jagdstaffeln units equipped with the new Albatros DIII eventually being countered by the Allied introduction of the more agile Sopwith Camel.

The war in the air was a costly business in terms of both lives and aircraft. The 1916 Battle of the Somme saw more than 64% of Allied aircraft destroyed, but the low point for the Allies came in April 1917 during the Battle of Arras when the RFC lost 275 aircraft and 400 aviators, four times the German losses.

Life expectancy for airmen was brutally short, at times averaging only a matter of weeks. Across the war, fatalilty rates in the air services exceeded those of infantry regiments. It's a sobering thought as you study the photographs of impossibly young, invariably grinning airmen.

When the war became entrenched in late 1914, St-Omer was the obvious base for the RFC. British Army HQ was located here, and the Bruyeres plateau, alongside the town's racecourse at Longuenesse, offered a long landing strip and easy approach. The site was already

RAF Memorial, Bruyeres Aerodrome, Longuenesse; 'impossibly young and invariably grinning'; RAF Memorial at Arras; No 1 Squadron at St-Omer.

an operational airfield, home of the Teller Aircraft Manufacturing factory and host in 1910 to one of France's earliest airshows.

Over the next four years more than fifty British squadrons operated from Bruyeres, which also hosted a massive logistical and supply base operating a large aircraft repair and storage depot.

The airfield, inevitably, is my next stop.

Still in active use, Bruyeres Aerodrome has a slightly abandoned air. The RAF memorial stands a little aside from the cracked concrete and shabby hangars. Airforce blue pillars mark the individual squadrons that were born here.

Unveiled in 2004, the memorial's opening ceremony was attended by WWI veteran Henry Allingham, who served first with the RNAS and was then a founding member of the RAF, eventually becoming the last survivor of both.

There is no sense that this place was once a hive of activity. I head to the eastern end of the airfield where the maintenance and supply depot was based.

Maintaining aircraft and equipment was a logistical challenge in itself. By the war's end the Sevice's initial 200 aircraft had expanded to more than 3300. More than 230 frontline airfields were built, used briefly, then disestablished and relocated.

Personnel from pilots and observers to mechanics, gunsmiths and photographic teams, expanded from 2000 in 1914 to 313,161 in 1918. Amongst them were around 860 New Zealanders, including 12 Squadron commanders, and 32,000 women who served in the WRAF.

The depot at Longuenesse was also home to an aircraft testing section under the command of chief test pilot Captain William Kennedy-Cochrane-Patrick. In addition to test-flying new and repaired planes, the unit worked on experimental technology in aeronautics and wireless telecommunications. The war saw many advances, particularly in the field of air to ground communications, where immediacy was extremely advantageous for reconnaissance missions.

Developments were also made in navigation, leading to long distance and night time bombing raids on German airfields and industrial sites. Airborne munitions were initially constrained by weight restrictions. As aircraft engines became more powerful, greater loads could be carried and flight times extended.

It was a two-way street. Raids on St-Omer and the surrounding area were constant, and the tally of dead, including civilians, climbed steadily.

Just a few hundred metres down the road is Longuenesse Souvenir Cemetery. Of the more than 3300 Commonwealth servicemen buried here, 149 served with the RFC and RAF. Many airmen lie elsewhere, in the 900-plus CWG cemeteries scattered across Belgium and France or, in the case of 991 airmen who have no known grave, recorded on the Flying Services Memorial at the Faubourg d'Amiens Cemetery in Arras.

Of the 9350 fatalities the air services suffered during WWI, 76% were under 25 years old. Half were killed during the war's final year.

Five kilometres away, a different kind of mausoleum marks a different war.

La Coupole, a massive underground complex built by Hitler in WWII as a construction and launching site for V2 rockets that would target London, is today a museum. The French are not great at museums. It never seems clear where you should walk or what you should read first. At La Coupole, the tunnels gouged from solid bedrock at least keep you going in the right direction.

From mid 2018 to mid 2019 La Coupole is hosting a three part exhibition, *'Centenaire de la Royale Air Force'*.

The entrance hall's WWI exhibition is compact and concise. The cold and depressing tunnels that lead into the heart of the complex offer a plethora of information boards on WWII, while side-tunnels are laden with memorabilia and broken aeroplane parts (lost on me, I'm afraid).

The rocket launch dome, 71m in diameter, its arched concrete ceiling 5m thick, has been rebranded a 'Centre of History and Memory' and hosts a section on the relationship between the local community and the visiting airmen of both wars. Including archival documents and films, photographs and testimonies, it is far more approachable than the data-heavy displays on the dome's construction.

Tucked in a small corner, an emotional grenade, clothing, letters, drawings and photographs record the deportation and murder of the region's Jewish population. I haven't finished watching the films when a staff member moves me on – "yes, the museum was open until 7pm yesterday, but today it closes at 6."

I have slipped from August to September without noticing. Easy to do when you are lost in the past.

The Canadian CPL experience

By Matt Anderson

Late last year I was given the opportunity to have a change from strip and mountain flying in Indonesia and work for a new operator flying a completely different aircraft and a new challenge.

The job involved flying fuel into remote airstrips from Tarakan in Kalimantan (Borneo), and also from the West Papua mining town of Timika. I'd done plenty of flying from both, particularly around Papua, so I knew the areas well. Once the offer came through I jumped at it.

The aircraft I was to fly was the mighty 802 Airtractor – currently the largest single engine tailwheel aircraft in production. The company already had two aircraft operating in Indonesia, with pilots I'd worked with and known from our previous work flying Porters in the same areas. The company was Canadian and, since they owned the aircraft and still had them on the Canadian register, I had to go through the process of passing the Canadian CPL before I sat in the driver's seat of the 802.

Talking to the other pilots revealed that I'd have to pass a 3.5 hour exam involving IFR, some ATPL, and all other CPL subjects rolled into one, followed by a flight test at a school near Winnipeg in Manatoba, Canada. That didn't seem too bad, since I'd recently passed all the NZ ATPLs and was also current in the air. I was given a link to a CPL online course that was a prerequisite to sitting the exam.

I soon discovered that I was facing a fairly major undertaking. The course involved weeks of study to pass quizzes that lead into smaller tests, all of which had to be passed to continue on. A video was included for each section, amounting to hundreds of hours of viewing as well as the text to read. After a few months I was getting through it all, and did find parts of it interesting, and quite different from our New Zealand system. Because of that I couldn't skip over the subjects I was familiar with as much as I'd hoped.

Obviously with the Canadian climate a lot of emphasis was put on Met, effects of land masses, seasons, storms, and icing. Also learning the Northern hemisphere weather systems, which are opposite to ours in the south. Law was quite different to New Zealand and there were plenty of figures to learn regarding the types of air operation, flight and duty times, and very different airspace/altimeter setting requirements.

Great emphasis is put on reading weather and obtaining forecasts, which was a subject on its own. Canada uses graphical area forecasts similar to those New Zealand has recently introduced. Flight planning and Nav were back to basics with 1/60 rules and dead reckoning, although most flight planning exercises were on published VFR/IFR routes on the maps. Another thing they concentrate on a lot more is aircraft performance graphs and charts, and weight/balance calculations, which were almost ATPL standard. IFR was covered well and involved all the usual Nav aids.

Once this course was completed I had to pass three practice exams at 75% to get a letter of recommendation to sit the real exam. Very thorough indeed. There were eight practice exams in total, so certainly plenty of practice before the real one. These were all done before I headed to Winnipeg.

A day after arriving in Canada I sat and passed the real exam and had the results before walking out the door. Soon after I was picked up from the hotel and driven two hours to Steinbach where I would do the flying.

Harvs Air is a well known flight school in the region and had two bases and plenty of students, both local and international. I was told I'd be in a 152 and had three days to practice and get up to speed. An instructor was assigned to me and set about beating me into shape for a flight test. Once again a lot was involved for the short time we had.

It's been almost twenty years since I sat my NZ CPL, and I don't remember it being as intense as the Canadian one. It can't have been, as I recall shortly after passing my NZ flight test being out in the Marlborough sounds with some local mates in a kayak loaded with Speights.

The flight test was to involve the first section of a cross-country with ETA, diversion, and G/S checks, followed by all normal flight manoeuvres including spins, all types of normal landings, and some IFR including navigating to/from a beacon.

The area around Steinbach was blanketed white with snow, as it was still late winter and it was as flat as Canterbury with no real landmarks. The towns all looked the same and the only useful thing for navigating was the grid roads running to the four main compass points. Apart from the -15 temps, most days the flying days were clear, calm and stable with hardly a ripple in the air the whole time.

For the flight test I ended up having an ex Transport Canada bloke, who turned out to be a friendly fella. We had two hours of groundwork with full flight plan, W&B, logbooks and aircraft performance data to cover then a 1.7hr flight test. After each exercise he would say, "Consider that part of the test complete; now we will do this."

I followed his finger down the page of his examiner guidebook and he missed nothing. Line by line we covered the whole syllabus. Once again, it's a very thorough process.

I passed okay and after a few well-earned beers was able to look forward to the next phase of training on the Airtractor. Thankfully no Speights-filled kayaks were handy this time to celebrate.

I flew down to company base in Thunder Bay on Lake Superior, where paperwork and licence processing began. Logbooks had to be sent in to Transport Canada Toronto for verification. I waited a week then had news my logbook was lost and hadn't even arrived at Toronto. My new boss is a top bloke and made some quick and direct phone calls to the powers that be; we were told not to panic and to sit tight.

The logbook was found and because "it would be processed urgently" I was to get up to Pickle Lake, Northern Ontario where I would have the 802 training.

After being up there a week with some familiarisation flights done, the boss called to say that my night dual training hours were not complete, so the licence couldn't be processed. I was apparently 45 minutes short of the 5hr Canadian requirement, and since TC wouldn't budge on it I had to be driven the 500km back to Thunder Bay.

An instructor and aircraft was found and I then did the extra 45 mins to satisfy the bureaucrats at Transport Canada. Something to be aware of, when sitting another country's licence, is checking and meeting all the requirements.

I also had to sit an English proficiency test because the NZ exam company ASPEQ was deemed an independent to NZCAA. By this stage I was a little over things, so the woman doing the English test got the strongest kiwi accent I could muster in Fred Dagg mode.

Apart from some issues in pleasing the local authorities and a glitch in logbook requirements, all went reasonably well. Certainly a great experience to do another licence in a foreign country and interesting to see the quite different methods and standards involved.

Proving ground dream

By Paul Godfrey

I've always wanted to fly into the Proving Grounds. When the invitation came, soon after I joined AOPA, nothing was going to hold me back.

Located on 490ha of private land situated at about 5000ft between Wanaka and Queenstown, the Proving Grounds are open for vehicle testing June through to August. Set up to accommodate private and confidential testing on various tracks, the Grounds offer everything from snow-making to ice preparation, accommodation and catering.

At the close of the season, if conditions are right, the track is open for a very brief time for invited aircraft.

I left my Rangiora base on Thursday afternoon and took a leisurely sightseeing trip to NZLX. In the Otamata Gorge I checked out the Mount Buster historic gold workings and water races. They're well worth a look. At 1200ft, covering an area about ten kilometres long and half a kilometre wide, Mt Buster gold diggings were New Zealand's highest altitude diggings. The site was continuously worked from the 1860s through to the 1930s, and hosted a peak population of 700.

Nigel gave us a warm welcome at NZLX Motels and an early start was planned, due to the risk of fog. Excitement ensured I was awake by 5am. Breakfast was had, procedures reviewed, confirmation received and we were off.

On arrival overhead the Proving Grounds we found Shaun waiting to give us a heads up on conditions. Being my first snow landing, I was a little apprehensive. I needn't have worried. The strip was so well prepared it was like landing on well prepared grass. Late in the landing roll I gently applied my brakes and was surprised by how much braking can be had with bald tyres on snow.

It turned out we could have skipped breakfast, as Nigel Forrester was displaying his culinary skills at the BBQ. How could you not enjoy a second breakfast in such amazing surroundings?

I've heard that the stopover has been short on previous trips as the runway has started to melt. We were lucky: conditions couldn't have been better, with little wind and very mild temperatures, considering where we were, allowing several hours for conversation and a look around.

Flying into this breath-taking location has been one of the highlights of my flying career. Family, friends and anyone who can't get away quick enough are still hearing about it.

Thanks to Shaun Gilbertson and AOPA for a well organised social event shared with very interesting and passionate pilots.

Bonspiel bonhomie

By Wendy Stewart

The end of winter finally saw the culmination of Paul and Lynette Hood's many attempts to take me flying – and what a stunning experience!

The day dawned overcast with a slight frost and we set off around 7.30am. Although the mountains were clouded in, we flew in clear skies down the east side of the Main Divide, with great views of rivers, valleys and lakes: fantastic! Paul and Lynette provided commentary as I picked out landscapes I'd driven past.

We landed on the snow runway at the Snow Farm in brilliant sunshine with no wind, then parked up alongside thirty plus aeroplanes of all shapes and sizes – an eye opener for me! Another treat was a barbecue and muffins followed by excellent coffee at the Snow Farm cafe. The huge expanse of graded snowy roads and buildings up the mountain was quite a surprise.

From the Snow Farm we flew to Wanaka Airport for lunch and then off for home. The cloud had come in a bit more and we climbed above it. Mt Cook was poking its head through looking glorious. The east coast was very clagged in so we flew the reverse flight path, ducking down under the cloud at Culverden and flying up the Waiau river to home. What a day... Thank you!

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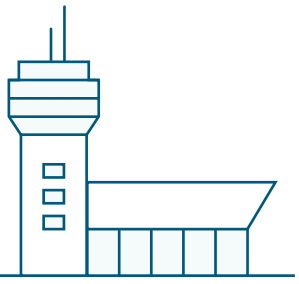
More precise information on your aircraft's position in an emergency, to a lower altitude and with 45 percent more coverage than currently possible with secondary radar

The option of installing ADSB-IN along with ADS-B OUT which can significantly improve situational awareness

The standards for ADS-B equipment are now set (Civil Aviation Rule Part 91.257). Talk to your Part 66 LAME or Part 145 maintenance organisation to get information specific to your aircraft and start to enjoy the benefits of ADS-B on your aircraft this summer.



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