

JOYSTICK JOTTINGS



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Welcome to Joystick Jottings February 2021

RQAC has a lot to look forward to this year with exciting activities planned, so please get involved. We are moving from Building 25 at Archerfield Airport as the Flight One redevelopment gets going. There is a new history room in the Archerfield Airport terminal building which Club members are helping put together. RQAC and Flight Standards have firmed up a great proposal for members which is outlined in this newsletter.

Bill and I spent Christmas in Bendigo with family and were overjoyed to see Qantas Link re-commence their Sydney-Bendigo flights. The regional city has really supported RPT flights and I met with the Airport Manager who tells me they are already increasing schedules. We also drove our motorhome to Narromine to catch up with other family members, camping at Narromine Aerodrome at the most welcoming caravan park and toured the Aviation Museum. See the article in this newsletter.

Thank you so much to our contributors, it's so good of you to send in the contributions, feedback and ideas. Enjoy the flight and safe landings all.

Heather Mattes



RQAC Presidents Update

Welcome all to 2021. It started out feeling a bit like 2020 but we trust things will slowly return to some sense of normality.

You would have received an email from Ian Tait, RQAC Secretary regarding the offer from the Flight Standards Group to assist the club with flying and social activities. The email is repeated in this edition of Joystick Jottings in full so please take the time to read it again to get an appreciation of the offer from the Principals. Kaine Sherwood and Chris Spencer-Scarr have been in contact with Flight Standards and are putting together a flying and social program which will be communicated to members on the club website, Facebook page and by email where appropriate, so keep your eye out for upcoming events starting in February 2021. It will be great to get back to some aero activities.

In November 2020 the club had an enjoyable tour of RAAF Base Amberley that was facilitated by the RAAF Amberley Flying Club. A full report is elsewhere in this edition.

Those who attended were required to provide a fair bit of personal data as part of the security requirements. Be assured that I have deleted all that information after 56 days since the visit. The Xmas Drinks were held on the 13th December in our last function in the Clubrooms at Building 25.



Members will recall an email from Ian Tait, advising that our periodic lease on Building 25 was ending pending the redevelopment of the site and an email was forwarded advising members of the closure of the clubhouse access and you were also provided with the brief concept plan for the site. In late January we received notice to vacate by the end of the month as demolition was imminent and a small group over a three day period packed up and did the transfer of the club possessions into two storage locations.

Thanks to John McDonald, Ian Tait and Divina and Marlise from Ian's Office who helped with the move.

Safe flying, **Glenn Cuffe, President**

New members – please welcome

Mr Greg Ellis
Mr Peter Harris
Mr Cameron Low
Mr Cameron Marchant
Mr Benjamin Mackney
Mr Jay David
Mr Peiter Hawkins
Mr Andrew Harris
Mr Timothy Enright
Mr Conner Gregory
Mr Nicholas Morrison
Mr Shane Tobin

2021 EVENTS CALENDAR

Date	Time	What	Where
Sat 13 Feb	12pm-2.30pm	BBQ	Flight Standards hangar Archerfield Airport
Sat 20 Feb	6.30am-5pm	Fly Away	Evans Head Airshow
Sun April 11	7am-11am	Burnett Flyers Breakfast	Angelfield (Murgon)
Fri-Mon 23-26 April	8am-5pm	Whitsunday Runway Dinner	Whitsunday Airport
Sat 8 May	5am-9am	Dawn Patrol – 79 th Anniversary of the Battle of the Coral Sea	Archerfield Airport
Sat 19 June	8am-11am	Straddie Breakfast	Dunwich Airfield
Sat 3 July	7am-5.30pm	Brisbane Airshow	Watts Bridge Airfield
Thurs-Sun 9-12 Sept		Ausfly 2021	Narromine Aerodrome

Note: More details on website and facebook page

Archerfield Airport Project AIM Update

MEDIA RELEASE

Project AIM works accelerated

Archerfield Airport's massive \$17.8 million airside infrastructure modernisation program will be completed years ahead of schedule, thanks to Queensland Government funding via its Building Acceleration Fund (BAF) program.

Archerfield Airport Corporation (AAC) is pleased to announce that the full program of works associated with Project AIM (Airside Infrastructure Modernisation) is now expected to be completed by the end of 2021. Initially, under AAC's Project AIM Major Development Plan (MDP) approved by the Federal Minister on 17th June 2019, the project was to be implemented in several stages, with works forecast to take up to 10 years to complete.

The significantly revised construction schedule is the result of a \$13.8 million interest-free loan provided by the BAF program. AAC will underwrite the additional \$4 million, with the BAF program funding to be repaid over the coming 15 years.

Archerfield Airport is Brisbane's metropolitan airport and has economic significance to Queensland. It provides a critical, supportive role to Brisbane's main airport by catering for non-scheduled and smaller aircraft associated with flight training, charter, corporate, small freight, private operations and 24/7 aeromedical and emergency services. The airport is also vital for connections to regional areas, providing patient retrieval services and access to remote mines and stations.

Airport General Manager, Rod Parry, said the Project AIM works would bring together various airside infrastructure improvements foreshadowed in the airport's Master Plan 2017-2037 and previous master plans since 2000.

He said the project aimed to enhance and modernise facilities for existing aircraft operations. It would comprise alterations to the main runway and upgrading of associated taxiways and other associated infrastructure, including improved apron parking areas and lighting and visual aids. "The safety benefits are significant and include the introduction of Runway End Safety Areas (RESAs) at both runway ends, installation of Precision Approach Path Indicators (PAPIs), Runway Threshold Identification Lights (RTILs), replacement of all Airfield Ground Lighting (AGL) with LED lighting, and widened taxiways."

The Project AIM works will further strengthen Archerfield Airport's role of strategic significance to the economic growth of Queensland. The works will be the catalyst for further investment and new business attraction, including the construction of new facilities on airport. They will position the airport as an economic and employment hub providing much needed jobs for the local community and help to stimulate the local economy.

Mr Parry thanked all stakeholders involved throughout the planning process to date, and in particular the State Government for their funding assistance. "We look forward

to the acceleration of the Project AIM works and the regeneration of Archerfield Airport as a facilitator of education, trade and economic activity in Queensland,” he said. *Issued January 29, 2021*

(Infrastructure Magazine 3 Feb 2021)

The Queensland Government will invest \$13.8 million in the \$17.8 million upgrade of Brisbane’s Archerfield Airport, which will include the extension of the runway and other infrastructure upgrades. Works include earthworks, pavement works, installation of services, new ground lighting facilities and visual aids and the commissioning of the improved runway and infrastructure.

Queensland Premier, Anastacia Palaszczuk, said the State Government was co-investing in job-generating infrastructure. “My Government is investing \$13.8 million in the \$17.8 million project to extend the main runway, and upgrade other supporting infrastructure, and work is already underway,” Ms Palaszczuk said. “These upgrades will help Archerfield Airport grow as an economic and employment hub, unlock further private sector investment and new business attraction. “It’s projects like this that will help in Queensland’s economic recovery and long-term growth opportunities.”

Deputy Premier and Minister for State Development, Steven Miles, said the investment, through the state’s Building Acceleration Fund (BAF), has provided the support needed to get the project off the ground. “This investment will help Archerfield Airport grow as an economic and employment hub, creating opportunities for further private investment and new business attraction,” Mr Miles said. “The works include extension to the main runway, and the upgrading of associated taxiways and other aviation infrastructure, for the airport’s transition to a major employment hub in the South West Industrial Gateway. “This support is part of our government’s economic recovery plan.

“The airport has over 115 aviation and non-aviation businesses supporting nearly 500 direct jobs and many more indirect jobs which will benefit from the infrastructure upgrades. “There’s opportunities in aeromedical, rescue and emergency aviation services for Queensland.”

Member for Algeester, Leeanne Enoch, said that the 50 construction jobs created by the project was great news for the region. “Our government is committed to investing in important infrastructure for local communities and this is a welcome upgrade to the airport’s facilities,” Ms Enoch said.

Rod Parry, General Manager of Archerfield Airport Corporation, said the BAF initiative will bring forward several airside infrastructure improvements significantly, by a number of years. “After a decade in the planning, it’s welcome news to have the State Government onboard to help deliver the essential infrastructure works Archerfield Airport really needs,” Mr Parry said. “This will enable growth in next-generation aircraft movements in and out of Archerfield Airport; modern aircraft with low emissions and reduced noise footprints, and also assist us to attract and host additional aviation and aviation compatible businesses.”

FLIGHT STANDARDS – OFFER TO RQAC MEMBERS

RQAC has accepted Flight Standards (Archerfield Airport) proposal in relation to assisting the Club with flight operations as well as benefits to Club members.



Flight Standards will offer:

- Club members a discount against the cost of their Flight Reviews;
- Flight Standards will offer their facility for either a Saturday or Sunday morning brekkie BBQ – once per month – and every second month they will put up the cost of the food. Our team will cook, but happy to have help / involvement from others, too!;
- Dawn Patrols – use our facility as usual – we will provide the staff to do the admin / cooking of the BBQ so that all the members can participate in the flying competition if the so wish;
- Help facilitate other flying competitions such as navigation exercises, flour bombing, spot landings using our staff and aircraft if required;

- Flight Standards will promote the Club amongst their clientele outlining some of the advantages in membership;
- A discounted rate for the hire of their aircraft to be used in Club sponsored events. The principals of Flight Standards and their Archerfield based instructors have all applied for membership of the Club which was duly considered and granted following due process by the board.

The Club Captain, Chris Spencer-Scarr and our newly elected director Kaine Sherwood have met with the principals of Flight Standards to discuss possible events for 2021. Hopefully the year ahead will not have as great a negative impact on the Club as was the case in 2020 due to COVID19.

Captain Kevin Shersby – Veteran pilot relives a life on the wing

Kevin's Club blazer which he donated to RQAC is in the memorabilia collection



Veteran pilot relives a life on the wing

Tuck Thompson

HE'S the pilot the Royal Queensland Aero Club says has "seen it all" and his resume bears it out.

He flew for Sir Charles Kingsford Smith in the 1930s, survived one fatal plane crash and narrowly avoided another, and "biscuit bombed" food and ammunition to troops on the Kokoda Trail during World War II.

Captain Kevin Shersby, a 94-year-old resident of an Acacia Ridge nursing home, is still giving to the aviation profession, this time donating his aero club jacket and memorabilia to the club at Archerfield Airport.

"I used to watch the airplanes flying over when I was a kid – I always wanted to be a pilot," he said.

Aero Club CEO Stewart Cameron said Mr Shersby,



the oldest surviving former member of a club that dated from 1910, was a legend of Australian aviation.

"He's seen it all," he said. Mr Shersby worked at Australian National Airways in the 1930s for founder Sir Charles Kingsford Smith, the first man to fly across the Pacific Ocean.

"He was a marvellous pilot. He set out on all these flights that no one else did," he said.

LIVING LEGEND: Former pilot Kevin Shersby, 94 (above); and Mr Shersby with a Gypsy Moth in 1934 (left). Main picture: Tim Marsden

He survived a DC-3 plane crash that killed his co-pilot in Bendigo in 1943. He went to hospital after being ejected from the plane.

Six years earlier, he narrowly avoided death after piloting a Stinson airplane from Cairns to Brisbane.

The same plane later crashed in the Gold Coast hinterland, killing two crew and five passengers. Two passengers survived.

Flying for the RAAF in New Guinea during WWII was another dangerous assignment, although his plane was never attacked by Japanese fighters.

When Mr Shersby retired more than 30 years ago, he had in excess of 18,000 commercial flying hours.

The history of the aero club is as illustrious as its former pilot, who donated his club blazer, photos and memorabilia.

The club started in 1910 as a gentlemen's flying club and began training in 1919, making it the world's oldest continuously operating flight training organisation.

The club currently has 440 members and 140 students in its training programs.

Mr Shersby could not remember how many planes he piloted over the years, but he recalled flying DC-2s to DC-6s, C-47s and others.

Airspace Matters

This section of your newsletter is intended to highlight airspace issues that might affect members. Please remember that it is out of date the moment it is sent to the Editor for inclusion in the newsletter so you should always plan your flight with reference to up-to-date information.

You can make comments on the two subjects below at <https://www.avsef.gov.au/queensland>. Or advise Geoff Fairless who can make representations on behalf of the club.

Class E airspace lower level

Airservices, apparently independent of the airspace regulator CASA, has proposed that the base of Class E airspace, where it is currently 8,500 feet AMSL, be lowered to 1500 feet AGL. Please note the different reference – no longer on QNH but AGL, so the base, on your altimeter set to area QNH, will constantly change depending on the terrain over which you are flying. Airservices has supplied modified WAC charts, too large to reproduce here, on their website <https://engage.airservicesaustralia.com/lower-base-class-e-east-coast>.

VFR operations do not need an ATC clearance to operate in Class E airspace. However, two issues inhibit VFR flight in the Class E airspace, one is common to the US practise, the other is uniquely Australian.

1. Visual Flight Rules (VFR) - This is the same in the USA

- In Class G airspace, at or below 3000 ft AMSL or 1000 ft AGL, the VFR is in-flight visibility of 5000M, clear of cloud and in sight of ground or water (AIP ENR 1.2-4)
- In Class E airspace below 10,000 ft AMSL, VFR is in-flight visibility of 5000M, but 1500 ft horizontally and 1000 ft vertically clear of cloud.(AIP ENR 1.2-3)

This will effectively require the greater cloud clearance above 1500ft AGL instead of above 3000ft AMSL

2. Equipment Carriage (AIP 1.5-13) – This is a unique Australian requirement

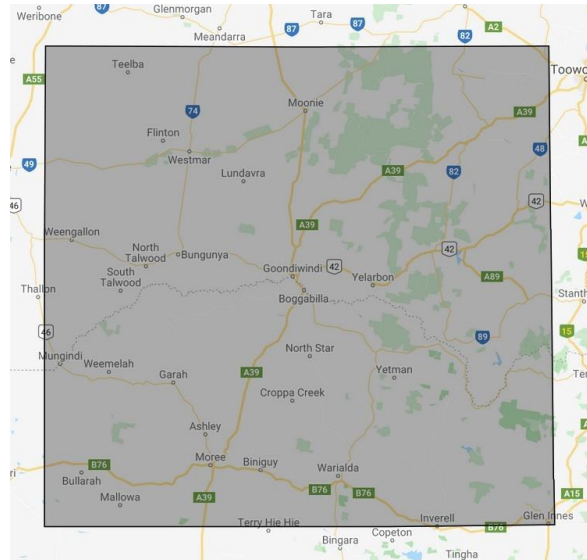
- If your aircraft is fitted with an engine-driven electrical system capable of powering a transponder; then you must carry and operate either,
 - A transponder capable of ADS-B out, Mode S or Mode A/C operation; or
 - An Integrated Traffic Awareness Beacon (TABS)

Hence when the Class E base is dropped to 1500ft AGL in, for instance, the Archerfield Training Area. Pilots without the necessary transponder or unable to sustain Class E VFR will have to remain at or below 1500ft AGL. (AF TWR may be able to broadcast a local QFE so your altimeter indicates 0ft when on ground at AF)

My opinion is that we should oppose this plan unless the transponder requirement is waived. This is a TCAS mitigation to Airservices fear of a separation incident in Class E. Currently CASA seems happy that no transponder in Class G is a safe operation, therefore imposing a transponder requirement below 8,500ft is not meeting any safety threat perceived by CASA.

RPAS Operations in the Goondiwindi area

Swoop Aero is seeking CASA approval for the operation of RPAS, below 400 ft AGL, beyond Visual Line of Sight (BVLOS) in the area shown centred on Goondiwindi. They are seeking input from local airspace users on any de-confliction or safety requirements



I have already replied advising that it is beyond our means as a club, or for individual pilots, to be able to develop de-confliction or safety requirements. I added that CASR 101 requires the proponent of BVLOS activities to develop such mitigation in order to ensure the safety of such operations. The reply is below:

Good Afternoon Geoff,

Thanks very much for getting in touch. We really appreciate all the responses that we have received to date to help inform our proposed operations.

We appreciate that this is quite a large area and are using this forum (among others) to assist in the identification of those operators that we may have otherwise missed. It is worth noting that this is only the initial phase of stakeholder engagement for identification purposes. So, it is very useful to get your feedback that there are a significant number of private airstrips in the area.

The request on "any deconfliction or safety requirements" was to try to prompt respondees to let us know if there are specific of local methods, they currently use that we can integrate with to achieve appropriate separation. For example, the reliance on NOTAMs, use of airband radio, any electronic conspicuity, or even phone numbers to call regarding specific operations.

As the Aviation Safety Regulator, CASA is reviewing our applications and operations very closely to ensure that all risks are mitigated to an acceptable level, noting the onus is on all airspace users to contribute to Safe Skies.

As this is a Beyond Visual Line of Sight operation, it is actually assessed against a higher level of risk assessment called the Specific Operational Risk Assessment (SORA). This process is internationally recognised/harmonised and was jointly developed by Aviation Safety Regulators in the Joint Authorities for Rule-making on Unmanned Systems (JARUS). I have included a link if that assessment process is of interest to you. Unfortunately, CASA have yet to publish their approach in any advisory or guidance material.

To your last point, until commercial agreements are finalised and announcements made, the exact locations of operations cannot be published. As this is an initial phase primarily aimed at stakeholder identification, we wanted to ensure that we targeted a larger cross-section than we intend to operate in. In the next phases of Stakeholder

Engagement Plan, significantly more information will be published. During that phase we would love to more actively engage the Queensland AvSEF committee through submissions/presentations and/or live Q&A sessions to provide key information in your preferred format whilst minimising the burden on you to review and respond.

We are really excited to be looking commence operations in Queensland, and whilst being acutely aware of the operational risks, are dedicated to ensuring that we safely fit in as seamlessly as possible with the existing operations and airspace users.

If you are the best point of contact, I will note down your details to get in touch as soon as more information can be made available, and if you want to let me know the preferred method of getting that information to the committee, I'd be happy to organise. Additionally, it is likely that will be publishing more of these more generic areas in different parts of Queensland in the near future. If it is preferably, happy to proactively reach out your committee only when additional information is available to save you responding to this more generic form of engagement. As above, just let me know.

Once again, thanks for getting in touch and appreciate that there is only so much feedback you can provide at this early stage without more details.

Kind Regards, Zachary Kennedy / Head of Regulatory Affairs

Safe Flying, Geoff Fairless, RQAC Member 104

RQAC Visit RAAF Base Amberley

A half "Airbus" coach load of RQAC members visited RAAF Base Amberley on Saturday 21st November 2020 for a guided tour of the base facilitated by the RAAF Amberley Flying Club (RAFC). The visit was in recognition of the RAFC access to the RQAC facilities at Archerfield as temporary members during the restricted access for community based clubs at Amberley during the height of the COVID19 shutdowns. Photography by the touring party was not permitted so all photos are courtesy of the Department of Defence.



RAAF Amberley is Australia's largest RAAF Base with some 5,000 personnel over the 4,000 acre site. The base has a long RAAF history and has played the home to a wide variety of aircraft since World War Two, including Canberra and F111 aircraft over the past few decades. It has undergone a huge expansion over the past decade and for those members who flew in for Airshows in the 1980s etc it would be barely recognisable.

Currently it is home to the F/A- 18 Super Hornet and Growlers of 1 and 6 Squadrons, the KC30A Multi Role Tanker Transport (MRTT) of 33 Squadron a platform based on the Airbus A330-200, the Boeing C17 Globemaster transport of 36 Squadron, and the Aleina (now Leonardo) C27J Spartan Battlefield Airlifter of 35 Squadron. As well the Australian Airforce Cadets are on the field with the Diamond DA40NG aircraft as well as the RAFC with its fleet of Tomahawk, Tiger Moth and other assorted aircraft. The Army also have a significant presence with the 9th Force Support Battalion (9FSB) which appears to be largely field engineers and transport assets. The base has significant facilities for maintenance of the aircraft by contractors such as Boeing. There are large airports (drive in like car ports) for each squadron of Hornets/Growlers built in the days of the F111 so the smaller Super Hornets fit in easily.



The entrance to the base by Southern Amberley Road has an F111 as a sentinel on display near the pass office. We noted the pop up tank trap on the road once past the checkpoint, installed after 9/11 to seal off vehicular access to the base. The massive Boeing maintenance hangar is close by and services a wide range of RAAF Boeing aircraft for deep maintenance. The first stop was at 35 Sqn with the C27J Spartan. It is not a replacement for the Caribou as no such aircraft is currently manufactured in that specification – it's larger and faster than the "Bou" but smaller than a Hercules C130J and it is described as a battlefield support aircraft. Initially delivered to RAAF Richmond the Squadron transferred to Amberley and is working up to full operational capability.



Next, we viewed the 33 Squadron KC30A MRTT a platform based around the commercial A330-200 airliner and noted their large hangar for 2 aircraft. The KC30A is fitted with 2 wing refuelling drogues and a central refuelling steerable probe. The aircraft has normal seating for around 270 passengers, although one aircraft has been modified with a VIP area in the forward cabin for use by the Prime Minister and staff on long distance overseas travel. The aircraft uses its normal fuel tanks to undertake airborne refuelling tasks and has no additional belly fuel tanks and trades off passenger/baggage load for fuel load depending on its missions tasking. It has a technical crew of four – three pilots and the tanker refuelling controller who has a rear facing console of the flight deck to handle the two drogues and the extendable arm refuelling probe. In the transport role, RAAF cabin crew are added to the crew list.





Moving on to 36 Squadron, we were shown the large C17 Globemaster apron which can accommodate the 8 aircraft in the fleet in line abreast and a huge hangar that will accommodate 2 aircraft. The tour also covered the messing, accommodation and recreational facilities on the base and the large Army 9FSB area in the southern area. It was then back to RAFC to look at their fleet of trainers and the donated Tiger Moth.



Finally we visited 1 Squadron; the RAAF's oldest squadron, and toured inside the HQ building and viewed the aircraft flight planning and dispatch area adjacent to the apron. 1 Sqn had set up a static display of an F/A 18 Super Hornet on the hardstanding and we were given a guided walk around tour of the aircraft and its capabilities were outlined as well as its interoperability with the Super Hornet Growler variant.



Tour over it was all aboard the "Airbus" back to Archerfield. We would like to thank our RAAF personnel hosts James Francis and Jeremy Sequeria who are members of the RAFC and are both Aerospace Engineers and pilots for setting up this most enjoyable tour. It took a fair bit of sorting with the senior officers of RAAF Amberley to be possible given base security needs and their COVID Safe requirements but was well worth the effort.

Glenn Cuffe

The Immortal DC3

Some 85 years after it first flew, the Douglas DC-3 still flies on in commercial service – a testament to the ruggedness of the original design. **ALAN DRON** tracks down the DC-3s still in service. It is the aircraft that revolutionised air travel in the 1930s, provided the backbone of the Allies' transport efforts throughout the Second World War and was the route by which many nascent airlines got into the air post-1945. But how many DC-3s are still flying today? More than 16,000 DC-3s and C-47s of all variants were built, while the Soviet Union constructed almost 5,000 more under licence as the Lisunov Li-2 and Nakajima Hikoki built close to 500 licensed examples from 1940-45.



*DC-3 in New Zealand.
(Bernard Spragg)*

The aircraft plied the airways in every corner of the globe. Keeping track of the survivors 85 years on since the DC-3's first flight is a task undertaken by Dutch DC-3 enthusiast Coert Munk, assisted by Michael Prophet

and Andre van Loon, who pull together data from around the world. Early this year, they calculated that 172 DC-3s of all variants were still flying commercially, around one-third of them turboprop conversions. This figure constantly shifts slightly, said Prophet, as aircraft are eventually retired, crash or – occasionally – are restored to flying condition. As might be imagined, the largest national group is located in the US, where around 80 reside. Canada follows with just over 20, with Colombia having 16. Still flying after all these years



Buffalo Airways still uses an original DC-3 in the cargo role. (Buffalo Airways)

Only one or two are still in regular passenger service, said Monk, with rather more hauling freight. The great majority are in other lines of work, such as research and entertainment, the latter in the form of pleasure flights.

One significant operator over the years has been Canada's Buffalo Airways, having had as many as 14 in service at one point. The company now operates only a single example, although it has, until recently, also had two Basler BT-67 turboprop conversions on lease. The turboprops have some significant advantages over the original DC-3, namely being around 30% faster and able to carry about 30% more cargo but the greatest advantage is their ability to use jet fuel, rather than increasingly hard-to-find AvGas, said Buffalo's General Manager, Mikey McBryan.

The airline's remaining DC-3 is used solely for hauling cargo – "anything that can fit in the freight door" – and mainly operates two daily 45-minute sectors between Hay River and Yellowknife in the Northwest Territories, the main hubs in this vast region.

The aircraft's routes cover particularly rugged territory: "There's no roads, so everything has to be flown in," said McBryan. Although the DC-3 can be fitted with skis if necessary, their use is very rare today, as most small communities arrange to have an airstrip cleared for Buffalo's aircraft.

Moving south from the frigid reaches of northern Canada, Central and South America has traditionally been a bastion of surviving examples of the DC-3, with airfields such as Colombia's Villavicencio, 30 miles southeast of the capital, Bogota, a particular hotspot. Of the 20 aircraft still known to be flying in the South American country, six are operated by the Colombian air force and four by the Colombian national police, with just 10 in commercial hands.

The air force examples, used as gunships in the 50-year guerrilla war against FARC rebels have, with the signing of a peace agreement, been redeployed on duties such as anti-narcotics patrols and surveillance.

Colombian airlines using the DC-3 have been under increasing pressure, said Prophet. New rules and regulations, triggered by a spate of accidents in the 1980s (not all of them involving DC-3s), have made operating conditions increasingly difficult for airlines. Several carriers now fly only one aircraft, with perhaps another one or two in maintenance, he said.

Despite this, the DC-3 remains the ideal aircraft to reach remote villages in the country's interior: "It's the most sensible, economical and mechanically solid vehicle to land on a dirt strip."

An aeroplane under no pressure



The DC-3 first flew in 1935, yet still continues flying today. (RAeS/NAL)

The secret to the aircraft's durability? "The people at Douglas over-engineered it for safety," said Prophet. A major factor behind that durability is that the aircraft is unpressurised, sparing its fuselage the strain of pressurisation cycles and eventual fatigue. Can it keep going

indefinitely? "As long as you keep parts well-oiled, replace cylinders and have all the tubing regularly maintained, why not?"

Those sentiments are echoed by Mike Woodley, CEO of Dunsfold, UK-based aviation filming specialists Aces High, whose G-DAKS has appeared in more than 30 films.

"It's a very simple aeroplane – a clockwork aeroplane, basically. It has no hydraulic controls on it."

That considerably eases the maintenance tasks. "It's as good as the day it was built. It's corrosion-free and lives in a hangar in winter."

The aircraft may be simple to keep operational but doing so does not come cheap: "It costs £100,000 a year just to maintain it," said Woodley. However, "Spares are still relatively easy to come by. They made more DC-3s than all other airliners in the world put together. We've got containers full of spares and you can buy spare engines for it."

When Woodley's company acquired the aircraft, it was destined for the fire dump at the Ministry of Defence base at Catterick. "A bit silly, because it had the lowest [flying] time in the world. It has only done 3,800 hours from new and has only had two owners – the RAF and us."

The aircraft saw action at both D-day and at Arnhem and, unusually, has never been civilianised. It spent much of its career with the RAF at West Freugh, southwest Scotland, dropping experimental sonar buoys and was then seconded to electronics firm Ferranti to be fitted with the Airpass radar used on the English Electric Lightning.

As mentioned above, the number of DC-3s fluctuates. There are, of course, the almost inevitable occasional crashes. But there are also examples of 'new' aircraft coming to light.

The Soviet C-47

The DC-3, now upgraded with turboprops has a new lease of life as the Basler BT-67. (Timothy Smith)

One was a C-47 supplied under Lend-Lease to the Soviet Union in 1943, which was transferred to civilian use and which made a forced landing on the Taymyr Peninsula of northern Siberia in April 1947. After 20 days, 20 of



the 29 occupants were found alive in the wreckage – ironically, by the crew of an overflying Li-2, which was able to land nearby to pick them up. The wreckage remained on the tundra until 2016 when an expedition mounted by the Russian Geographical Society retrieved the remarkably well-preserved wreck and transported it by helicopter and barge to Krasnoyarsk, where it is being refurbished and is destined to be an exhibit in the city's planned Museum of the Exploration of the Russian North.

There are still examples of the DC-3 waiting to be brought back into the public gaze. Even in this era of ubiquitous social media, there are some owners who keep their prized aviation possessions locked away in hangars and they are rarely seen. The Dutch group of enthusiasts knows of most of them, but sometimes, admitted Prophet, even he is surprised when an unexpected example turns up.

Locating 'new' DC-3s is a regular occurrence at Basler Turbo Conversions. The company has been converting radial-engined DC-3s and C-47s into BT-67 turboprops since the late 1980s. The 67th example is due to roll out of the company's hangar in mid-July and the company has almost 30 more airframes on hand at its Oshkosh, Wisconsin factory. "We know of another 150-200 that are candidates and with a bit of research we could probably find another 100," said Rob Kincaid, Vice-President, Marketing and Product Development. The company is set up to produce up to five aircraft annually, "but we're very comfortable with two a year", said Kincaid.

The term 'conversion' is something of a misnomer. Apart from the obvious change of engines from Pratt & Whitney Twin Wasp or Wright Cyclone radials to Pratt & Whitney PT6A-67Rs, the fuselage is lengthened by some 40 inches to offset changes in the centre of gravity caused by installation of the much lighter new engines (around 500lb each compared to the 1,500lb radials).

More significantly, around 90% of the original aircraft is discarded, with only the basic fuselage structure being retained. "It's a zero accumulated fatigue aircraft, which is a lot of legal jargon to say it's brand new," said Kincaid. "It's a complete nose-to-tail conversion, rivet by rivet. The FAA considers

the BT-67 to be a separate type rating. If you have a DC-3 type rating, you'd have to come through a course and do a check ride."

The versatile workhorse



The Colombian Air Force operates the BT-67 in the gunship role. (Colombian Air Force)

The aircraft has proved popular with armed forces – the first major customer was the Royal Thai Air Force, which still uses them for cloud seeding. The company is currently developing that military niche.

It argues that the aircraft's low price (a base conversion comes in at around

\$10.3m, although much depends on added customer options) makes it particularly suitable for developing nations with tight budgets for use as a gunship or armed overwatch platform. A new variant being developed for nations with limited airports and infrastructure is a medevac aircraft, with litters and even an operating table.

The BT-67's other main niche is with civilian companies that use the type for various aspects of scientific research and testing. The aircraft's endurance – just over 2,000nm or more than 13 hours with long-range tanks – makes it particularly favoured by geophysical research companies, for example, while China uses two ski-equipped BT-67s operated by Canada's Kenn Borek Air for Antarctic support duties. "The biggest issue we have with the industry is perception," said Kincaid. "Because it looks like a C-47, the tendency is for people to go 'Oh, that's an 80-year-old aircraft.' But it's really not."

The Dutch Dakota Association

The DC-3/Dakota has a strong connection with The Netherlands, thanks to Arnhem. (DDA Classic Airlines)

Among the non-commercial organisations keeping DC-3s in the air is DDA [Dutch Dakota Association] Classic Airlines of The Netherlands, whose aircraft performs around 30 weekends of pleasure flights a year, mainly in the Netherlands and Germany.



The Lelystad-based aircraft has an unusually rich history, even for a DC-3. It took part not only in the D-Day invasion but in the ill-fated Operation Market Garden, which was intended to create a 100km salient held by US, British and Polish paratroopers along a narrow corridor in The Netherlands in autumn 1944, seizing bridges at Eindhoven, Nijmegen and Arnhem and forcing a bridgehead over the Rhine, thus shortening the war. This history means the aircraft “has added historical value for us in Holland,” said DDA Classic Airlines foundation chairman, Feije Jaski.

A further Dutch connection comes from Prince Bernhard of The Netherlands, who bought the aircraft in the US in 1946 and sold it a year later to the Dutch government, for which it performed VIP flights for many years – often flown by the Prince himself. The aircraft’s registration, PH-PBA, recalls Prince Bernhard’s links.

The DC-3 also arouses considerable enthusiasm in Germany, Jaski added, where the type is known fondly as the Rosinen-Bomber, or ‘grape-bomber’, a reference to its significant role in ferrying fresh food to Berlin during that city’s blockade by the East Germans in 1948-49. Beyond that, many Germans admire the aircraft’s old but durable technology. “We fly the aircraft 120 to 150 hours annually during the April to November season,” Jaski said. Typically, flights are operated from Amsterdam Schiphol, Rotterdam, Maastricht and Groningen to overfly landmarks such as the tulip fields and central Amsterdam. Remarkably, the foundation has broken even since 2011. The Covid-19 pandemic has forced DDA to cancel this summer’s timetable but Jaski is confident the aircraft will be back in the air next year.

Despite its age, “The aircraft is in excellent shape. We’ve changed engines on it many times and they only have a few hundred hours’ flying time. We inspected the wings recently and it looks like it came from the factory last week. “There’s no lack of engines. In the US there are engines that are fully refurbished and when we buy them, they have zero hours.”

DDA Classic Airlines has around 80 volunteers that maintain and fly PH-PBA. The ground crews have either retired from, or still work in, the aviation industry. “They’re usually highly skilled. During the winter we have refresher courses to keep them licensed. The most important part, of course, is in the cockpit and we have eight or nine pilots.” Uniquely, said Jaski, a sponsor has built a fully-functioning DC-3 simulator, complete with 180-degree screens and audio-visual systems. Although mounted on a fixed base, the pilots’ seats have up to 10 degrees of movement for realism and, as with a modern airliner simulator, an instructor can pose problems for the pilots, such as engine failure, by the push of a button.

Alan Dron, 21 August 2020

Q

AS AUSTRALIA'S
NATIONAL AIRLINE
CELEBRATES
100 YEARS OF
CONTINUOUS
OPERATION, WE
LOOK BACK AT
HOW IT BEGAN.

ABOVE RIGHT From left: Hudson Fysh, Paul McGinness and their mechanic George Gorham departing Longreach for Darwin, August 1919.



QANTAS - THE EARLY YEARS

QANTAS AIRWAYS WAS not the first airline in the world; that honour arguably belongs to The St. Petersburg-Tampa Airboat Line. Commencing operations on 1 January 1914, the world's first 'winged' airline began flying the 40-odd kilometre distance between the two cities across Tampa Bay in Florida, in Benoist XIV flying boats.

Nor was Qantas the first airline to operate regular commercial flights in Australia; those credentials belong to Norman Brearley's West Australian Airways. Though it was incorporated almost a year after Qantas, Brearley's company won a government contract for passenger and airmail service between Derby and Geraldton and immediately commenced Australia's first regular commercial service in December 1921.

It would be another 11 months before Qantas would have the luxury of a regular pay cheque, as Paul McGinness took off from Charleville carrying Queensland's first airmail – 106 letters – bound for Longreach.

Australians cannot even claim Qantas Airways is the oldest airline

brand name still in existence; KLM snapped up that accolade when it was incorporated in October 1919, a little over a year earlier than Qantas.

However, on 16 November 2020, Qantas will turn 100 years of age and hold the mantle for the oldest airline still in existence to have operated continuously since its inception. KLM discontinued operations during WWII and in 2004 merged with Air France to become Air France – KLM. As a result, Australia's own Qantas will be the first airline in the world to celebrate its centenary.

As Australia's national carrier notches up 100 years of operation, it's worthwhile to touch on the library of books written on the subject of Qantas' history, and perhaps gain some understanding of where it came from and how it has evolved over its first century. This is the first in a four-part series that will break the airline's history down into its early years, the propeller era, Qantas at war and, finally, the jet era and beyond. For readers with a love of 'Team Building Human Factors' speak, we could sub-title them Forming, Norming, Storming and Performing – so we will.





ABOVE Hudson Fysh welcomes Ross and Keith Smith to Darwin.



BELOW Vickers Vimy piloted by Ross and Keith Smith with Jim Bennett and Wally Shiers (mechanics) arrives at Darwin, 10 December 1919.

FORMING: 1919-1923

In August 1919, two World War I decorated, Air-Ace pilots set out from Longreach, western Queensland, for Darwin in a heavily laden Model T Ford. Employed by the Department of the Army, Paul McGinness DCM DFC and Hudson Fysh DFC (later Sir Hudson Fysh) had accepted a mission to survey for emergency landing fields in the remote Australian outback. The emergency landing fields would also serve as navigation markers and possible refuelling stops for the contenders of the 1919 Great Air Race from England to Australia.

Barely surviving the two-month ordeal, trekking by car through scrub, sand and crocodile-infested waters, the two otherwise unemployed pilots came upon a brilliant concept. As they made their way across the remarkable landscape, the men witnessed firsthand

the difficulties the inhabitants of the harsh and unforgiving country faced on a daily basis. Just getting supplies, mail and medical attention would take days or even weeks. During the wet season, towns and properties could be isolated for up to a month.

To men of the sky, the solution was obvious. What was truly needed in the outback was an aviation business that could support those living and working in the extreme conditions. It was a grand plan, but a plan that needed support and lots of money. It wasn't until a chance Sunday afternoon meeting with an influential grazier named Fergus McMaster that the seed to create the business was sown.

By late 1919, McGinness and Fysh had completed the survey work for the Great Air Race. McGinness, driving back from Darwin on a more realistic southern route than the originally devised Gulf route, had located and



prepared sites for emergency airfields, sent navigation instructions back to Darwin for the fliers to find their way on the last segment to Melbourne, and was waiting in Cloncurry for Fysh to arrive from Darwin. The eventual winners of the race (Ross and Keith Smith) were now completing the final hours of their 18,000km odyssey to a heroes' welcome in Melbourne – and £10,000 in prize money. Fysh, who had remained in Darwin to prepare the town's first landing field was now hitching a ride southbound to meet up with his aviation partner in Cloncurry.

McGinness was filling in a warm Sunday in Cloncurry preparing for a social picnic when fate walked up and asked for some help. A wealthy and influential grazier, Fergus McMaster, had come to grief a few kilometres out of town with severe car troubles. With the vehicle stuck in a ditch, he was in need of assistance. As McGinness set

about fixing McMaster's car, he began telling the grazier of the enterprising business idea he and Fysh had devised for outback Queensland. McMaster was of course grateful for the ingenious help to get his car mobile again, but it was McGinness' infectious enthusiasm for starting an aerial business that garnered the influential local's interest.

As the months passed, Fysh and McGinness found many sympathetic and enthusiastic supporters for their business proposal, including two other local graziers Ainslie Templeton and a silver-haired octogenarian named Alexander Kennedy. Templeton knew McMaster well, and knew that the business needed him if it was ever to literally get off the ground. Aware that McMaster would be in Brisbane performing his duties as chairman of the Anti-Cattle Duffing Association, Templeton arranged a meeting to get the enterprise underway. Within a few

weeks, and with another ally, Dr Hope Michod in tow, the six men gathered in the stylish Gresham Hotel in Brisbane, to formalise their agreement. There, around a small, glass-topped round table in August 1920, the men put their signatures and some £3,000 in cash to an agreement that would form a historic aerial business – trading name yet to be determined.

The newly formed company set up headquarters in the office of P.W. Riley (Auctioneers) in Winton, holding its first directors' meeting in the Winton Club.

The Company Certificate of Record in the name of the Queensland and Northern Territory Aerial Services Ltd would not be issued until 16 November 1920 – the official birthdate of Q.A.N.T.A.S. Other names were considered for the new business, including the rather lofty Australian Trans Continental Aerial Services Co Ltd and Western Queensland Auto

Aero Services Ltd. History bears out the wisdom of their final choice, given that WQAES doesn't roll off the tongue with quite the same lilt as QANTAS. McMaster explained that the acronym was "coined with ANZAC as its inspiring factor".

With the ink still drying on the August deal, McGinness and Fysh departed for Sydney to meet with a fellow WWI pilot, Nigel Love. Love, who had fought in the skies over France with No.3 Squadron, was now constructing Avro aircraft under licence on a cattle paddock he had selected beside the Cooks River in Sydney – now Kingsford Smith Airport. QANTAS signed an agreement to purchase two of his three-seat, Dyak-powered Avro 504K aircraft for delivery as soon as possible. With the expectation of needing larger aircraft, however, the purchase agreement was later changed to a single Avro 504K aircraft and one of the larger Avro 547 triplanes.

With the dawn of 1921, QANTAS' first aircraft – the Sunbeam Dyak-powered Avro 504K, was ready for delivery. At the same time, QANTAS landed its first job – to fly another biplane, a Royal Aircraft Factory BE2e from Sydney to Longreach on behalf of its new owner, Charles Knight. Knight's deal was to employ the pilots to bring his purchase home and to teach him to fly. Fysh, McGinness and Arthur Baird (QANTAS' first aircraft engineer) completed final checks of the Avro and set off from Sydney for Winton on 21 January 1921 – McGinness and Knight in the Avro and Fysh and Baird following in the BE2e. With just a few incidents along the way, including a near loss of the BE2e in cloud near Singleton and some severe navigation issues, the fleet arrived in Winton on 6 February.

In the heady days of aviation such 'incidents' were not rare and there was some concern within the new company about finding sufficient customers for their new service. As Fysh pointed out, the public saw that aeroplanes were "uncomfortable, unreliable and had frequent forced landings, so people were afraid to leave the ground in such an unnatural venture!". Knight quickly discovered that for himself and by the time they arrived in Longreach he had



already changed his mind about the whole flying thing, and sold the BE2e to Fysh and McGinness for £450. QANTAS was now a fully formed company with two aeroplanes and a third on order. It was now time to start doing business.

Fysh set off south from Winton home base in the BE2e and McGinness north in the Avro in search of that ever-elusive beast, aviation income. With a going rate of about 2 shillings per mile for taxi service or £3 for a 10-minute joy flight, fiscal certainty was a long way off. What was needed was a regular, government-sponsored mail and freight run like Brearley had already secured for his airline in Western Australia. Lobbying and negotiations began in earnest and went all the way to Prime Minister Billy Hughes' office, for a subsidised run joining the railheads between Charleville and Cloncurry. As is the case in such matters though, nothing is ever easy. As negotiations with the government dragged on, the ariel company sat on



ABOVE
The First Fleet: taking delivery of QANTAS' first aircraft – the BE2e (top) that Charles Knight would sell to QANTAS as their second aircraft and the Sunbeam Dyak-powered Avro 504K (above).



RIGHT Chartering a QANTAS aircraft in 1921 for Turkey shooting from the air. Owner of (aptly named) Wellshot Station standing with Fysh sitting in BE2e holding dinner.

FAR RIGHT Duck Street Office, Longreach.



a financial knife edge, spending money on repairs and fuel while trying to survive on coins for joy flights.

At each town and station property they visited, both men would wear many hats. They had to be not only pilots, but salesmen and lobbyists as well – garnering support from the local communities and landowners while providing any and every aviation service possible. On one trip, Fysh visited Wellshot Station near Ilfracombe and, presumably testing out his formation flying skills, was employed to take the station manager turkey shooting by air. Meanwhile, McGinness was urgently

called on to make what was possibly the first aero-medical evacuation in Australia, bringing newly born girl Melda (Peg) Glasson and her mother into Winton hospital in the open-cockpit Avro, just the first of many medical flights QANTAS would undertake, eventually extending to its support for the Royal Flying Doctor Service.

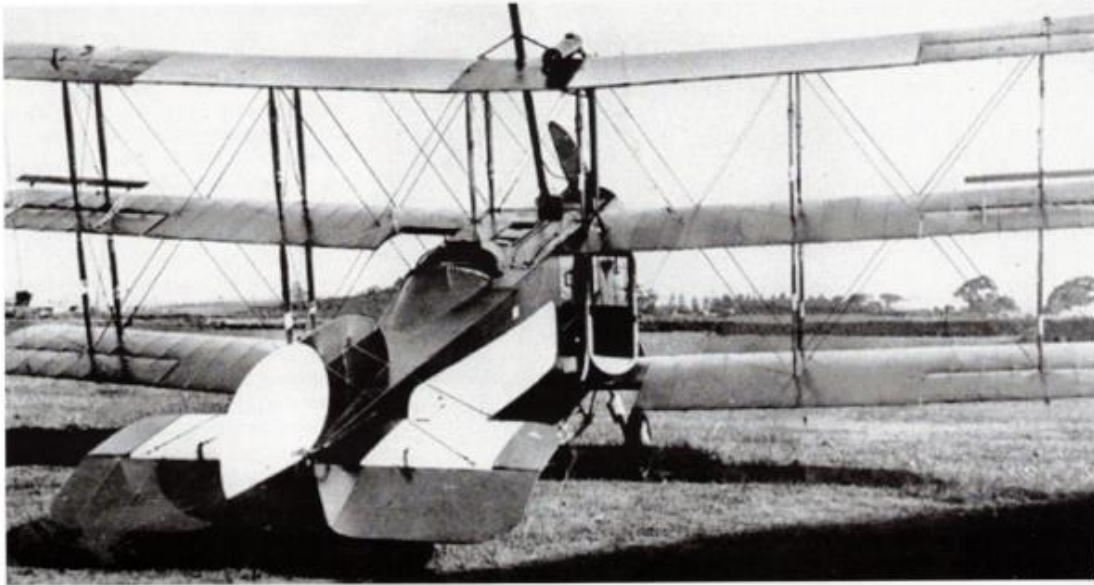
QANTAS' first year of operation proceeded at a frenetic pace. In April of 1921, following its first official board meeting, the company moved headquarters from Winton to Longreach, eventually taking up office in Duck Street. The small weatherboard shop,

complete with hitching rail out front, would serve as the fiscal heart and administrative nerve centre for the business, while flying operations were centred just east of the town's showgrounds on land supplied by the Agriculture Society. Company Board papers stated that as of 15 May 1921, after just four months operations, McGinness had traversed 7,400 miles, carried 285 passengers and flown 111 hours, earning a gross revenue of £934. Fysh had amassed similar figures giving the company a credit balance after expenses of some £881.

Finally, in December, their lobbying action paid off when the government called for tenders to operate an air service from Charleville to Cloncurry. Of course, there was no certainty QANTAS would win the tender and there were some interesting stipulations required of the application. For example, the service would have to be flown in an experimental type of aircraft and the pilot had to be of English descent. While the yet to be delivered Avro 547 fitted the bill, its poor flying characteristics rendered it unsuitable for the task, so the QANTAS Board decided to tender on the basis of an order for two Vickers Vulcan aircraft. While the company awaited the Vulcans, a newly acquired De Havilland DH4 would have to make do. Neither Fysh nor McGinness held any desire to fly the Vulcan – nicknamed the 'Flying Pig'. At £3,700 each, they were not only ugly but expensive. As with the Avro 547, QANTAS would never take delivery of the Vulcans, as they could not achieve their promised performance of climbing to 10,000 feet with a full load in 13.5 minutes. In the heat of western Queensland, they could barely get airborne.

In early 1922, QANTAS received word that it had won the tender. In order to fulfill the contract, the airline purchased two Armstrong Whitworth aircraft.





Though they too struggled with the summer conditions, at just £700 each the AW's were far less expensive than the Vulcans and they proved to be quite reliable workhorses.

Meanwhile, things for McGinness were not going as he would have liked. The airline that he had 'lit the spark of' was changing. Opinions are divided on whether it was his need for a more challenging existence than the mundane regular flying could provide, or the board's new rule requiring pilots to 'take the pledge' (no alcoholic drinking at all – ever), or the more likely version that control of the company was leeching away from him. One sticking point was the employment of the company's new manager Marcus Griffin without McGinness' knowledge or approval being sought. Whatever his reasons, on the 25 October 1922, McGinness had had enough and tendered his resignation, barely two years after the company he had conceived had started. McMaster, as chairman, reluctantly accepted his resignation but encouraged him to stay on to see in the first regular service of the airline.

A week later, at 5.35am on 2 November 1922, QANTAS made history. McGinness and Baird, with 106 letters



aboard, departed Charleville before an assembled crowd of locals, in the Armstrong Whitworth G-AUDE on its first commercial service. After passing through Blackall, McGinness landed in Longreach at 10.15am. There, Fysh was waiting with the silver-haired Alexander Kennedy ready to continue the service on to Cloncurry in the sister Armstrong Whitworth aircraft, G AUCF. The only hitch in the day was the second AW's inability to take off. Unable to achieve enough power during the take-off run, Fysh aborted the take-off and returned to the assembled crowd to swap back to the aircraft McGinness had just arrived in. As he transferred the load and made ready for a second attempt, Kennedy, holder of QANTAS passenger



ABOVE Ugly Ducklings that QANTAS never owned: The Avro 547 triplane (top) and the Vickers Vulcan (above).



OPPOSITE TOP First Airmail Service arrives Longreach 2 November 1922. From left: A. Baird, N. White (director), Dr Hope Michod, M. Griffin (manager), Alexander Kennedy (QANTAS' first official passenger – ticket No.1), P. McGinness (pilot), F. McMaster, H. Fysh and T.F. Barker (director) in front of Armstrong FK-8.

OPPOSITE BELOW 20-year reunion: the men who built QANTAS reunite in 1939 on the rooftop of Shell House, Margaret Street, Sydney, QANTAS Empire Airways Headquarters. From left: Hudson Fysh, Fergus McMaster, Arthur Baird and Paul McGinness.



ticket number one, famously yelled to the crowd, "Be damned with the doubters!". Some conjecture still exists as to his meaning, was he belying those who had doubted QANTAS' ability to achieve the dream of a regular air service, or merely shouting back at those friends warning the 85 year old of the perils of aviation, as demonstrated by the just completed aborted take-off?

Finally airborne, Fysh described the scene of Kennedy, on his first flight in an aeroplane. "His flying cap had slipped round and his whiskers were

streaming in the wind, but looking back I could see a happy smile on his face."

Fysh flew on stopping at Winton and McKinlay, averaging 69 miles per hour for the 310-mile journey.

As Fysh, with engineer Baird and passenger Kennedy aboard, landed the Armstrong Whitworth safely in Cloncurry later that day, QANTAS had come of age and was now truly formed. It now existed as a proper company with an enthusiastic and influential board, two new teetotalling pilots employed to replace McGinness and bolster the service, a fleet of five biplanes, and most importantly a government-subsidised contract for regular air service.

All this was realised in the space of three years. Next would come consolidation...

To be continued next edition.

*Don Hill, Qantas Pilot &
Director, Qantas Founders Museum*

LIBERATORS AND LIBERATION



LIBERATORS AND LIBERATION

WORDS Michael Nelmes

THE ONLY HEAVY BOMBER FLOWN BY THE RAAF AGAINST JAPANESE FORCES, THE B-24 LIBERATOR PLAYED A SIGNIFICANT ROLE IN VICTORY IN THE PACIFIC.

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THE LOCKHEED MARTIN F-35 Lightning II aircraft for the RAAF are being assembled at Fort Worth, Texas. Seventy-five years ago, another RAAF front-line combat aircraft was being rolled out at Fort Worth: the Consolidated Aircraft Corporation B-24 Liberator heavy bomber. Fort Worth was just one of five factories owned by three manufacturers. At the largest of those, the Ford Motor Company's plant at Willow Run, Michigan, B-24s were being rolled out at the rate of up to one per hour.

First flown in 1939, the B-24 was built in larger numbers than any other American aircraft – more than 18,000. The prodigious output supplied not only the US Army Air Force (USAAF) on every front, but also the Royal Air Force (RAF) and, from early 1944, the RAAF.

This year, 15 August marked 75 years since the end of World War II. As a companion piece to our museum feature and the conclusion of our Fannie Bay Dogfight series, we thought it

appropriate to look at the role played by Australia's B-24 Liberators during the final year of the war. As the only heavy bomber employed by the RAAF against Japanese forces, the B-24's effectiveness against diverse and distant tactical targets and Japan's transportation network made a significant contribution to victory in the Pacific.

American heavy bombers, mostly B-17 Fortresses of the 19th and 7th Bombardment Groups USAAF, had been seen at Darwin and Batchelor in the Northern Territory since the early days of the Pacific War. US Liberators of the 90th Group commenced operations from Northern Queensland in November 1942, and from Batchelor and Fenton in the NT the following February. The USAAF's 380th Group arrived at Fenton in May 1943. Staging for fuel at Truscott or Corunna Downs in WA when necessary, the B-24 had the range to carry an effective bomb load as far as Borneo and return.

EARLY RAAF CREWS

RAAF crewmen joined the RAF's first B-24 squadrons in the European and North African theatres during 1941-42. In RAF Coastal Command, the B-24 'very long range' bomber covered a gap in the Atlantic Ocean, enabling it to hunt and attack German U-boats which were decimating Allied supply convoys. Later, RAAF crewmen flew RAF Liberators in both the Mediterranean and Burma-India theatres. Their missions included not only bombing, but also resupply for partisan forces and air-dropping special duties operatives behind enemy lines – roles later taken on by RAAF B-24s in the Pacific theatre.

A few RAAF crew flew with the 380th Group from Fenton in 1943. Around November that year, the Americans indicated that B-24 allocations to the RAAF were likely. From February 1944 groups of experienced RAAF crews joined an operational training program, initially in Queensland and then in New Guinea, where they flew 10 or 15 missions with US Squadrons. That exposure was designed to prepare a cadre of crews with B-24 experience to fly the aircraft in RAAF service.



Returning to Australia, the men joined the 380th Group or became instructors with No.7 Operational Training Unit (7OTU) at RAAF Station Tocumwal, NSW. There, on Australia's largest airfield, a dozen war-weary former USAAF Liberator aircraft arrived for aircrew and maintenance staff training before, in May 1944, new examples were ferried across the Pacific to Amberley, Qld, a prelude to large-scale delivery.

Within six months Tocumwal was home to the RAAF's largest training unit, boasting 2,000 personnel and 58 Liberators.



OPPOSITE PAGE Ford's Willow Run factory, Michigan USA, where in 1941 a Liberator was rolled out every hour.



TOP NT Heavy bomber bases in Australia, 1942-45. Map: Michael Neimes.

ABOVE North-West Area Force Liberators in NT and WA roamed the region as far as Borneo, Sumatra and the Philippines. Map: Australian War Memorial (AWM).

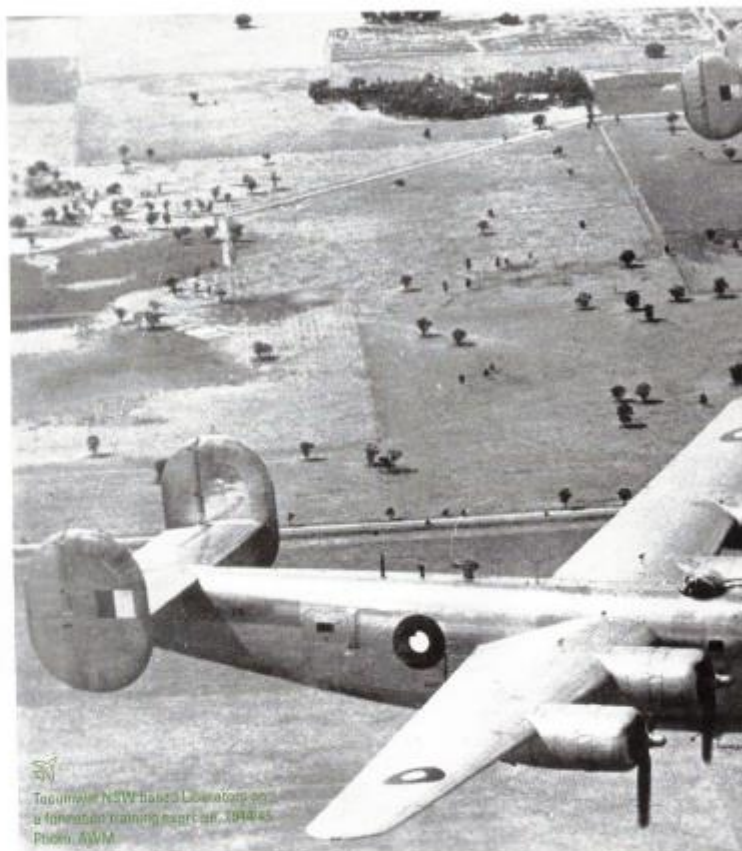


INTO RAAF SERVICE

Several former Vultee Vengeance dive-bomber squadrons were recalled from the New Guinea theatre and began converting to the B-24. Three squadrons, No.24, No.21 and No.23, were formed into No.82 Wing RAAF under the command of GPCAPT Deryck Kingwell. No.24 SQN, initially attached to the 380th Group, flew its first B-24 mission on 6 July 1944 from Manbulloo, NT. Throughout 1944, Tocumwal-trained crews continued to undergo further training in New Guinea before joining a RAAF squadron (see table below).

The majority of B-24 operations fell into two categories: long-duration armed patrols in search of shipping and supply craft in the Timor, Arafura and Banda Seas; and attacks on land targets such as airfields and emplacements in Timor, the Celebes, Netherlands East Indies (NEI, now Indonesia) and Borneo. One notable success was a series of three daring low-level attacks on power stations in Java between 27 January and 8 February 1945. Another noteworthy mission came on 6 April 1945 when, together with RAAF B-25s, nine B-24s of 82 Wing bombed and damaged the Japanese light cruiser *Izuzu* in the Flores Sea. Two Liberators were shot down by sustained fighter attacks.

No.200 and No.201 Flights were among the RAAF's most secret units. No.200 FLT flew for the Allied Intelligence



Tocumwal NSW based Liberator on a formation training sortie in 1944. Photo: AWM

WARTIME RAAF LIBERATOR UNITS

Units listed in sequence of operational deployment. Additional bases were maintained at Truscott and Corunna Downs WA for long-range missions.

UNIT	PARENT WING	OPERATIONAL BASES	BECAME OPERATIONAL
7OTU	-	Tocumwal NSW (heavy bomber training)	February 1944
24SQN	82	Manbulloo NT, Fenton NT, Morotai	July 1944
21SQN	82	Fenton, Morotai	January 1945
25SQN	-	Cunderdin, WA	March 1945
200FLT	-	Leyburn, Qld	March 1945
23SQN	82	Long, NT, Darwin, NT, Morotai (deb)	April 1945
201FLT	-	Darwin	April 1945
125SQN	85	Darwin	May 1945
1025SQN	-	Cecil Plains Qld	July 1945
99SQN	85	Darwin	September 1945





Bureau, air-dropping special operations personnel of Z Special Unit into Borneo, the NEI and Timor. NO.201 FLT was a forerunner of today's electronic intelligence units, but although it moved north to Darwin, it did not go into action.

In June 1945, 82 Wing moved from the NT to Morotai in the Halmahera Islands – closer to targets in the Celebes and Borneo. After staging a series of pre-invasion attacks, the wing covered the amphibious 'Oboe' landings in Borneo at Labuan, Tarakan and Balikpapan. In July, advance parties arrived at Balikpapan, but the war ended before the wing fully relocated there.

Post-war, the B-24 squadrons undertook the transport of Australian prisoners of war back home from camps in the NEI. In 1947, the Australian-built Lincoln replaced the Liberator and it faded into the annals of history.

During their year of service, RAAF Liberator units lost 169 men and 14 aircraft on operations or in accidents. Numerous Australians also lost their lives while serving with RAF and USAAF squadrons. The display of the sole remaining RAAF example at Werribee, Victoria (see museum feature, page 50) will be a fitting tribute. **W**

• *Wings* assistant editor (history) Michael Nelmes authored *Tocumwal to Tarakan: Australians and the Consolidated B-24 Liberator* (Banner Books ACT, 1994).



ABOVE A Japanese 'sugar dog' supply craft burning after a No.1250N B-24 attack. Photo: AWM.



ABOVE RIGHT A Coastal Command Liberator attacks German U-boat submarine U293 in the Skagerrak off Denmark. Photo: AWM.

LIBERATORS BY THE THOUSANDS

More than 18,000 B-24 Liberator heavy bombers were built by the United States during World War II. Of those, 287 were flown across the Pacific to Australia for use by the RAAF during 1944-45.

Seven RAAF squadrons, one operational training unit and two special flights operated the type: Nos. 12, 21, 23 and 24 Squadrons flying from NT bases and later from Morotai in the Halmaheras, No.25 Squadron from WA, Nos. 99 and 102 Squadrons in Qld, 7 OTU at Tocumwal NSW, and Nos. 200 (special duties) and 201 (radio-countermeasures) Flights flying from Qld, NT and the Philippines.

The RAAF's use of the aircraft focussed on tactical raids on Japanese airfields and installations, patrols and low-level attacks on enemy supply vessels, support for the Oboe invasions of Borneo, and long-range strikes north-west to the Netherlands East Indies (NEI now Indonesia), while 200 Flight air-dropped special mission personnel into Borneo and the NEI.

CONSOLIDATED B-24J LIBERATOR SPECIFICATIONS:

Crew: 11

Length: 20.5m

Wingspan: 34m

Max take-off weight: 29,500kg

Powerplant: Four Pratt & Whitney R-1830 Twin Row Wasp supercharged radial engines of 890kW each

Armament: 3,600kg of bombs, 10 x 0.5-in machine guns

Max speed: 478kph (255kts)

Range: combat 2,480km (1,330nm), ferry 6,000km (3,200nm)

Service ceiling: 28,000ft

*Air Force Association National President Carl Schiller OAM,
CSM is Patron of a unique Victorian aircraft restoration project, which in recent times
has also been accredited as a museum. From earlier roots in the Veterans and Friends Association
B-24 Squadrons of Australia, former RAAF Liberator pilot Bob Butler, his crewman Eric Clark
and a small band gathered in 1988 to discuss how they might fulfill a dream to acquire and restore
a Liberator for the nation. From those beginnings the project has grown into what it certainly one
of Australia's largest, most comprehensive and thorough historic aircraft restoration projects.
Along the way additional restoration projects – an Airspeed Oxford and Avro Anson trainer
(RAAF types flown at Werribee, the site of the project) and a CAC Boomerang fighter –
have joined the B-24 in the hangar.*



THE LAST
LIBERATOR
DOWN UNDER



BELOW LEFT A72-109 70TU, 1945.



RIGHT Richard Strana and Graeme Hare working on the upper gun turret. Photo: Norm Morris.



BELOW RIGHT Charles Cull working on a bomb release unit. Photo: Norm Morris.



OVER THE PAST 32 YEARS, the future of our Liberator has been the subject of suggestions ranging from the sublime to the ridiculous. It was going to fly. It was going to Point Cook. It was going to Ballarat. It was even to be disassembled and taken to the Avalon Airshow, where it would be reassembled and taxied along the runway. None of those things happened.

The ambitious souls who gathered together with Air Force personnel at RAAF Base Wagga in August 1988 had one idea, to locate a B-24 Liberator to restore and display in an appropriate museum for the people of Australia. Fortunately, that ideal has been followed faithfully by the hundreds of volunteers and members who have provided their time, skills and money to bring the aircraft to the stage where it will now have a permanent and proper home in a rebuilt and restored hangar.

You might wonder why some people would gather together so many discarded items in the hope that one day they may prove to be useful, but luckily for our project they did. Most of the donated items have been in need of restoration, which has kept our volunteers occupied over the years.

B-24 BRANCH
SECRETARY RAAF
ASSOCIATION
VICTORIA TONY
MULLER LOOKS
AT THE EFFORT
TO RESTORE THE
LAST SURVIVING
RAAF LIBERATOR -
AUSTRALIA'S ONLY
HEAVY BOMBER
OPERATED IN
THE WAR AGAINST
JAPAN.



THE FUSELAGE

The main body is from a RAAF B-24M (serial A72-176) which flew with No.7 Operational Training Unit (7OTU) at Tocumwal, NSW in 1945. Interestingly, it had been flown by the unit's CO and previous Officer Commanding No.82 Wing, AIRCDRE Deryck Kingwell. After the war it was dismantled at RAAF Base East Sale, Victoria for disposal and most probably scrap. But instead of being delivered to the smelter as were the rest of the RAAF's 287 Liberators, the fuselage was bought by the Toye brothers and trucked to George's backyard in the Latrobe Valley town of Moe. It rested there on its belly for 40 years.

When rescued from among trees by what was then the B-24 Liberator Memorial Fund, the fuselage was still in surprisingly good condition. In 1995, it was delivered to Werribee by a Gippsland CMF unit and dismantled into sections for access to remove corrosion and then sealed with an etching paint. The interior was photographed before being stripped of all remaining fittings. Every panel, former and stringer was

cleaned, treated and reassembled. That first phase was planned to take five years and ran over time by a year or so, but it was necessary. With little physical damage, most of the panels only needed minor repairs.

WINGS & TAIL ASSEMBLY

With a fuselage secured, the major components now needed were wings and a tail assembly. None had survived from the RAAF Liberator fleet, but in the 1990s a crash-landed US Army Air Force B-24D was identified in Papua New Guinea's Ramu Valley. With hydraulics shot out by a Japanese fighter, its pilot was forced to land without flaps or brakes. After a high-speed landing it ran into the rough at the end of the runway, and the nose wheel collapsed. The damage was enough for the Americans to leave it for us to discover 50 years later.

The wings and tail assembly were removed, and over two years of co-operation between the Army, Air Force, Navy, Qantas, the Burns Philp shipping line and volunteers, they were shipped to Australia. Unfortunately, the ship was caught in a fierce storm and most of the tail unit fell overboard. However, enough parts to build another were located in Darwin. As for the large Fowler landing flaps, a set was found stored in a farm shed.

While the rescued wings had very little corrosion, their outer sections and tips had been badly damaged during the crash landing. A replacement pair of outer sections were acquired from the USA as part of a trade deal which initially turned sour but was eventually resolved. The replacement wing sections were from a US Navy Privateer version of the Liberator. Because the Privateer's role had included low-level flying over the sea, they had been sealed against corrosion and therefore the wings required very little attention.

The wingtips were made from plans, and the volunteer who made them was heartbroken when they were stolen. One of our sister hangars, in which the wingtips and other parts were stored, collapsed and we were not allowed inside for months while asbestos was



ABOVE How far the aircraft has come along since its days in a Moe backyard. Photo: Phil Buckley.

removed and the area declared safe. It provided rich pickings for thieves, who took every bit of metal they could carry including an ejection seat. Conscious the wingtips would probably go overseas, Customs was alerted and a few weeks later they turned up, dumped on the roadside near the hangar fence.

ENGINES

Early in the project's history, we were donated three mighty Pratt & Whitney R-1830 fourteen-cylinder, 1,200-horsepower radial engines. They had been treated with a preservative for storage, which initially made it impossible to rotate the drive shafts. A fourth engine was assembled from donated spare parts and christened the Bitza. Using the R-1830 spare parts book and workshop manual it took over a year to assemble, as additional parts had to come from America when there was enough money in the kitty. The restoration team was so scared of running the beast (Bitza) that the test frame made for it was designed to withstand an earthquake. The engine was not fitted with a propeller to aid cooling for prolonged operation, so it was only intended the engine at least start. When it was to start, the entire crew of hangar volunteers gathered behind with their backs against the hangar wall, safely away from anything that might let go. Much to everyone's surprise, it not only started but ran very sweetly. The project now has five running engines, the fifth from a deal with a New Zealand repairer.



BELOW Tony Muller working on a Twin Wasp motor; Next project, an Aero Anson. Photos: Norm Morris.





ABOVE From top: cockpit canopy (photo: Phil Buckley); retractable ventral ball turret (photo: Michael Nelmes); display cockpit (photo: Michael Nelmes).

UNDERCARRIAGE & GUN TURRETS

One undercarriage oleo leg was found under a house in suburban Melbourne, and a second donated by a farmer who had tried to make a wool press from it. A firm in South Melbourne offered to restore them and that provided a pair of functional undercarriage legs. Two more have since turned up. Two landing wheels, tyres and inner tubes from South America completed the main undercarriage.

The upper gun turret had been among a load of turrets being delivered in the USA when the delivery truck caught fire on its way to a production facility. As the truck was then blocking the highway, police pushed it into a ravine. In 1996, a collector arranged to salvage those turrets and one was transferred to the Memorial project. It is now restored and operational.

The rear gun turret, donated by volunteers at RAAF Base Amberley in Queensland, is also not far from complete restoration. The nose turret, a composite of several units, has been restored to an operational state and is awaiting the manufacture of new Perspex skin. A second nose turret being assembled from donated parts will form part of the artefact displays in a larger, upgraded hangar into which the project will relocate.


The Darwin Aviation Museum offered parts to restore three of the retractable Sperry ventral ball turrets, on the proviso that one was restored for their presentation. That was done and the turret retained will be fitted into the fuselage. The leftover parts were cobbled together to form a third turret for external display.

MUSEUM ACCREDITATION

Over the past five years, the project has gone through the long and sometimes difficult process to achieve accreditation by Museums Australia as an official museum, and this was achieved in 2019. The entire team is looking forward to completing the

original mission intent to restore an RAAF Liberator and to display the aircraft "in an appropriate museum for the people of Australia".

We hope everyone who has been part of this journey in the past will get as much pleasure in seeing that happen as will the current volunteers, members and supporters. With the B-24 moving into its new home, there will be more space to continue the work on the collection of training planes used during the war at Werribee Airfield: the Airspeed Oxford currently underway, followed by an Avro Anson project currently in containers. The museum is looking for a Tiger Moth to complete the trio. It will also allow Nick Knight to do justice to his CAC Boomerang (RAAF serial A46-147).

The B-24 Liberator Memorial Australia has celebrated many milestones in its history, and many setbacks as well. The recent news that the new Hangar No.1 will soon be moved close to the smaller hangar in which the Memorial now operates is certainly a reason to celebrate. The B-24 can then be displayed as it was when it left the Consolidated Aircraft factory in November 1944. 

• *B-24 Liberator Memorial Australia Inc. is currently situated in the hangar at the corner of Farm Road and Princes Highway, Werribee, Victoria. Phone 03 97311263.*

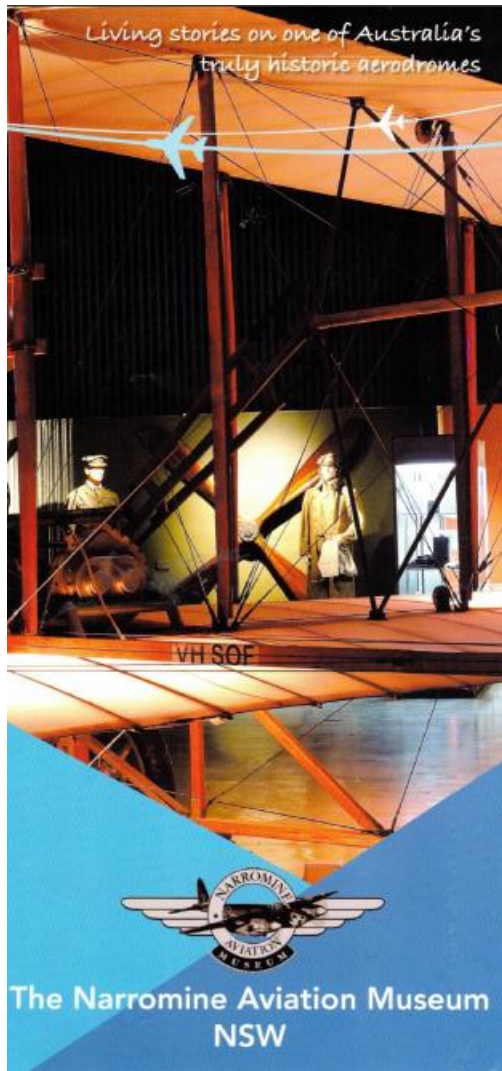
The project will relocate into its larger hangar in the near future.

For update information and opening times, email liberator@b24australia.org.au, visit b24australia.org.au and [facebook.com/B24Werribee](https://www.facebook.com/B24Werribee), or view the recent 10-minute video, Melbourne Day Trips: B-24 Liberator Restoration on

YouTube – scan the QR code (left) with your smartphone or tablet for a direct link (see page 27 for QR code instructions).



NARROMINE AERODROME AND AVIATION MUSEUM



Narromine Aerodrome in NSW is on the Mitchell Highway 40kms west of Dubbo and is privately owned and leased and operated by the Narromine Aero Club. Narromine Aero Club is now Australia's oldest regional aero club.

During the barnstorming era of the 1920s and 30s the aerodrome hosted such great aviators as Sir Charles Kingsford Smith and Charles Ulm, Sir Alan Cobham, Arthur Butler, Jean Batten and Sir Francis Chichester.

Home to the tiger moths of No. 5 Elementary Flying Training School during WW2 and the Mosquito men of the RAF top secret 618 Squadron from the UK. The aerodrome is now a major gliding destination, home to various competitions and the Junior World Gliding Championships in 2015. In 1920 thousands gathered to see the giant Vimy Bomber winner of the Great-England-Australia Air Race touch down.

The Narromine Aviation Museum was built from scratch with Nancy Bird-Walton being the original Patron and the extension was opened by now Patron Sir Angus Houston former Chief of Defence Force.

There is an iconic replica of the 1907 Wright Flyer Model A 2005 built by Eric and Keith Hayden and flown 6 hours by Col Paye; an original 1938 Corben Super Ace homebuilt sports plane; an original 1953 Hawkrige Venture glider and a Sabre jet fighter. State of the art display lighting and an audio visual screen bringing the stories to life.

Well worth the visit!



HIGHLAND tragedy

On the afternoon of 28 August 1972, while on a flight from Lae to Port Moresby, Caribou A4-233 crashed in the Kudjeru Gap some 18 miles (29 km) south of Wau. The aircraft had a crew of three and carried 26 passengers including 24 PNG army cadets. The only survivors were five of the cadets, one of whom later died in hospital from injuries sustained in the crash.

Tasked with carrying out an Army support task, Caribou A4-233 departed Lae for Port Moresby 2.01 pm. The flight proceeded normally and at 2.26 pm a position report was made over Wau at a height of 6500 feet and estimating being abeam Mount Yule at 1450 hours. No further transmissions were heard from the aircraft. At 3.39 pm a distress phase was declared and a search and rescue operation began immediately. Three days later a searching Army Sioux helicopter, found four survivors and, close to last light on that day, a

further very seriously ill survivor was found at the crash site.

Examination of the wreckage

The aircraft crashed at 4800 feet AMSL on the northern side of a 5000-foot ridge that lies on the western side of the Korpera River in the Kudjeru Gap. Marks in the tree tops 100 yards (91.4 m) south of the ridge line and 50 feet below the crest, plus a debris trail leading to the crash site, indicated that the aircraft was proceeding in a northerly direction before contacting



the trees. The average gradient on either side of the crest of the ridge was 35 degrees.

The debris trail commenced with the green glass from the starboard navigation light, which was found on the south side of the crest.

At the crest, major portions of the starboard mainplane, starboard tailplane and starboard propeller were located and 300 yards further north the debris trail terminated at the fuselage, which was propped up at 70 degrees tail fin uppermost, by a tree.

The forward cargo compartment had suffered massive damage and the cockpit had been completely burnt out. The mainplane section from the starboard engine nacelle to the port wingtip was lying adjacent to the forward fuselage and the starboard engine was found 100 yards away to the east down the steep slope.

Discussion of the evidence

The accident occurred in transit from north to south on the Kudjeru Valley route between Lae and Port

Moresby. The crew had flown this route four times during the preceding three days and twice earlier on the same day.

The evidence indicated that the initial transit into the valley was at 6500 feet, but cloud prevented the crew maintaining visual flight in the valley and, confronted with lowering cloud over a rising valley floor, the pilot turned back. During the turn or soon afterwards, the aircraft struck trees at about 4900 feet altitude and crashed into heavy jungle some 400 yards from the initial impact point.

There were no major deviations from flight plan, except that the captain had initially elected to remain at 3000 feet after departure from Lae because of weather.

The next call from the aircraft placed it at 6000 feet, and later a position report abeam Wau stated it was at 6500 feet. At this point the captain was probably influenced by the weather in the Wau area, which was clear and had probably decided to transit low level through the valley because 6500 feet could be maintained at the entrance.

As the flight progressed down the valley, cloud cover increased and the cloud base lowered almost to the valley floor.

Approximately 20 miles south of Wau, where the valley begins to narrow, conditions deteriorated and no further visual flight was possible. A turn was made to reverse course to the north and a climb was initiated. At this point the aircraft possibly entered cloud. The right wing struck tree tops at a point about 50 feet below the ridge line. The aircraft continued up the side of the ridge contacting the tops of trees and shedding fragments until several large trees near the crest caused major damage to the right wing and right tail plane. Control was lost and the aircraft continued on a northerly trajectory finally impacting on the northern side of the ridge in a steep nose down attitude.

A detailed examination of the engines and airframe was carried out and there is no evidence to suggest that a technical defect caused the accident. The crew had correctly

reported deviations from flight plan and position reports, and there is no reason to believe that they would not have broadcast a distress message, if some in-flight emergency had arisen. There was no evidence to suggest that crew fatigue had any bearing on the accident. The crew had flown 5.30 hours on the preceding day and approximately 3.30 hours on the day of the accident.

Pilots operating in PNG are generally very conscious that local weather conditions can change rapidly. On the morning of the accident the captain had received the standard area forecast from the Lae weather office but had not received the updated forecast, which was available at Lae, before the last sortie. This is not considered significant as he had just flown over the route. However, this flight had been made at 9500 feet above the weather, possibly because conditions were not suitable to transit the valley at low level.

Considering these possible conditions, the captain's decision to

transit the route low level some two hours later is difficult to understand.

It may have been that he wished to avoid flying above the overcast with its associated risk of IMC flight below safety height, should an engine fail.

The crew

The captain was a category C Caribou captain, with flying experience totaling 979 hours all types, 712 hours Caribou and 123 hours captain on type. He had flown two PNG trainer exercises during 1971, one while undergoing conversion course and the other preparatory to a four month detachment to PNG in that year. His total in-country flying experience was 216 hours. The co-pilot was a current category C Caribou co-pilot, with flying experience totaling 816 hours all types and 22 hours captain on type. He had flown 195 hours in PNG, completed a PNG training exercise during conversion course and spent three months flying in PNG during 1972.



The loadmaster was category B and had a total flying experience of 2220 hours. He had flown 400 hours in PNG and had a total of five months detached to PNG. There was no evidence to suggest that the physical condition of the crewmembers contributed to the accident.

Aircraft serviceability

The aircraft and all its equipment were probably serviceable when the accident occurred. There was no evidence of mechanical failure or malfunction of engine, airframe or other equipment essential to flight. There was no entry in the maintenance history of the aircraft that was relevant to the accident.

Weather

The forecast weather conditions in the crash area were isolated areas of rain with 6/8 stratus cloud with a base of 600 feet AGL in precipitation. Two civil pilots operating in the area soon after the accident reported deteriorating weather with cloud base descending to the valley floor, while visual flight above cloud would have been possible at 10,500 feet. There were no thunderstorms or other dangerous cloud formations evident in the crash area.





... most probable cause of the accident was that the pilot lost control of the aircraft after striking trees as a result of an error of judgment, in that he did not turn back at an earlier stage...

Flight authorisation

The flight was correctly authorised by the Squadron Operations Flight Commander and the crew was operating under proper authority at the time of the accident.

Briefing

The crew was briefed at Richmond, initially by the Deputy Operations Flight Commander and later by the Flight Commander. In these briefings the three alternate standard routes between Lae and Port Moresby were explained and the Flight Commander also instructed the captain to obtain further detailed local briefing from the Squadron detachment on his arrival at Port Moresby.

The captain did not obtain the additional briefing at Port Moresby. During the three days preceding the accident the crew flew between Port Moresby and Lae five times and flew from Lae to Port Moresby on the morning of the day of the accident via the same route albeit at 8000 feet.

They returned to Lae transiting the Kudjeru Valley at 9500 feet approximately two hours before the accident. Therefore, they were familiar with the conditions generally and the accident is not attributable to

any deficiency in briefing. However, the captain may well have failed to appreciate fully the rapidity with which conditions could deteriorate. Further, there is no direct evidence to indicate he had previously flown through the particular valley under the weather conditions prevailing at the time of the accident.

Conclusion

The evidence indicates that the most probable cause of the accident was that the pilot lost control of the aircraft after striking trees as a result of an error of judgment, in that he did not turn back at an earlier stage of flight, when confronted with deteriorating weather.

The cause of the accident has been assessed therefore: (a) Aircrew Error: Error of Skill — Collision with the ground.

Comment

It is considered that a pilot with more experience in PNG operations would, in the prevailing weather conditions, probably have expected cloud in the valley and elected to transit above the

weather. Further, a pilot with more knowledge of that particular valley, transiting below cloud, would probably have turned back earlier. But the suggestion that a pilot with more local knowledge would have not made the same error is speculative.

No amount of further briefing, counselling or advice would have better fitted the captain for the particular flight on which the accident occurred. The captain had three days experience of local flying immediately before the day of the accident. He had flown between Port Moresby and Lae a total of 20 times, but evidence suggests strongly that he had not previously attempted to negotiate the valley below a low overcast.

The Recreational Flying Company in Gympie

The Recreational Flying Company in Gympie Aerodrome offer RA AUS and GA Training right up to Multi Engine Instrument Rating and Instructor Rating Training, flight reviews etc ...as well as all the fun stuff like aerobatics and formation training. Our focus is core stick and rudder skills and we provide that tailored one on one service of the old days at Royal Queensland.

Their instructor is Scott Smith who was an international pilot for Virgin. They have a great team, varied aircraft and fantastic facilities, and RQAC members are more than welcome to drop into the hangar for a coffee and a chat anytime, even if just for a pit stop. We are the second largest hangar on the left as you exit the runway. Everyone is more than welcome anytime.

<https://www.recreationalflyingco.com.au/>

They also have a charter arm for Charters Scenics and transfers

<https://www.widebayaircharter.com.au/>

RQAC Patches for sale



Doug McEwan very generously donated some patches to the club to sell to members which they can place on their flight jackets or flying suits. I have attached a photo of the patches for you to place in the next edition of joystick jottings. They are for sale at \$15 each as that is what it cost Doug to have them done.



REVIEW BY Bob Trehear

WRITTEN IN THE SKY

By **MARK CARR**
Melbourne Books, RRP \$29.57

WRITTEN IN THE SKY is an autobiography of one man's desire to fly. Mark Carr joined the Royal Australian Navy (RAN) as a Midshipman to train as a naval aviator in the Fleet Air Arm. He has flown with the RAN, RAAF, Ansett Airlines and Cathay Pacific Airways, and has expertly woven a historical backdrop across his experiences.

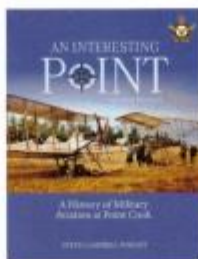
The demands of Navy flying, particularly landing on HMAS *Melbourne*, a very small aircraft carrier by world standards, quite rightly draws admiration for Australian Navy pilots who routinely faced the challenges of carrier operations. Mark's light-hearted description of Navy terminology provides another example that sets the Navy apart from the other services.

Subsequent transfer to the RAAF to fly Orion long-range maritime patrol aircraft provided an extension to his military career, although a desire to avoid staff duties caused him to look beyond the services.

Joining Ansett airlines helped him realise another boyhood dream until it was shattered by the vicious, bitter and protracted airline pilot dispute in the late 1980s.

Mark chose to leave Australia and fly for Cathay Pacific Airways. While international flying might seem less stimulating after a career in the services, the author's writing skills ensure the reader remains engaged and absorbed with his accounts of challenges and rewards.

This autobiography stands out as a simply told, down-to-earth account without gilding the lily. Carr takes the reader into the cockpit with him. *Written in the Sky* is suitable for those with an intimate knowledge of flying, while it will also engage the aviation enthusiast who will enjoy the experience.



REVIEW BY Bob Trehear

AN INTERESTING POINT: A history of military aviation at Point Cook

By **STEVE CAMPBELL-WRIGHT**
Big Sky Publishing, RRP \$29.99

ON SUNDAY, 1 MARCH 1914, a Bristol Boxkite aircraft flown by Lieutenant Harrison took to the skies over Point Cook, Victoria, marking the first flight by a military aircraft in Australia – the beginning of the nation's long and distinguished military aviation capability.

The author, Steve Campbell-Wright, served in the RAAF for over 35 years and holds a master's degree from the University of Melbourne and postgraduate qualifications from Deakin University. He skilfully blends the history and development of Point Cook with that of the Australian Flying Corps from 1914 to 1918 and the RAAF from 1921. While describing the development of the base buildings and infrastructure, his portrayal of the people who took the decisions, implemented plans and conducted operations from Point Cook brings a compelling human touch to the history.

Between the wars, Point Cook became the epicentre for the establishment, development and mastery of the technical and engineering expertise essential for the successful conduct of future aviation operations.

An Interesting Point is well researched, well written and easily maintains the reader's interest throughout. It is well presented and supported with beautiful photographs that bring the history to life.

The book will appeal to those who have at least a passing interest in aviation history. To quote a former Chief of Defence Force and Chief of Air Force, Air Chief Marshal Angus Houston: "The history of Point Cook is an important story. It is one which should be better known to all Australians."



REVIEW BY Michael Nelms

ON A WING AND A PRAYER: The race that stopped the world

By **DI WEBSDALE-MORRISSEY**
Text Publishing, Melbourne (2019), RRP \$32.99

IN THE EARLY HOURS of 20 October 1934, scenes dubbed "Mildenhall Madness" befell the aerodrome at Mildenhall near London. An estimated 60,000 spectators had gathered to watch 20 aeroplanes take off. With a few exceptions they were not the biplanes we think of from that era, but sleek monoplanes. Three had been designed just for the race. They would need speed, reliability and endurance – their destination was 18,000km away in Melbourne, Australia.

As part of Victoria's centenary celebrations, Sir MacPherson Robertson had agreed to sponsor a London to Melbourne air race. As the author says, the announcement "rattled the cages of aeroplane manufacturers and aviators". It would be a challenge like no other.

The first England to Australia air race of 1919 saw just one of seven competitors reach Darwin in the designated month, and it took nearly three more months to reach Melbourne. Just 15 years later, the time between London and Melbourne was reduced to 71 hours – a far greater leap than in the subsequent 85 years.

On a Wing and a Prayer includes stories from an Australian perspective and an epilogue on what happened to the competitors in the years after the race. An appendix lists the conditions stipulated for the race. For the handicap section, an interesting formula for calculating each aircraft's speed is included. It was seen as a questionable approach (the organisers probably didn't want to trust manufacturers' figures), and resulted in at least one aircraft being placed behind where it probably deserved to be.



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