

ABN 3007 129 1677
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A periodical of the Fleet Air Arm Association of Australia
Edition 41, January 2021.

THE SPIRIT OF AUSTRALIA



QANTAS turned one hundred years old last month, making it one of the longest continuously operating airlines in the world. The story of how it came to be, and the two young veterans who made it so is compelling reading, as **Marcus Peake** finds out.

Wilmot Hudson Fysh was a man of contrasts. The oldest of five siblings fathered by a merchant in Launceston, he was a poor student and was painfully shy and retiring - often described as 'sensitive and socially lost'. He ran away from home frequently, and was deeply affected by his parent's marital break-up: and yet, within a few years, he had built a reputation as a man of great political acumen, a hard head for business, and as a stern and uncompromising taskmaster.

Having joined the Light Horse Regiment at the start of WW1, Fysh survived two years as a soldier in the trenches of Gallipoli and in Palestine and Sinai. He commissioned as an officer in 1917 and transferred to the Royal

Flying Corps, where he was to serve as a gunner to Lt. Paul McGuinness – a partnership that was to last a lifetime.

After the war, having earned his pilot licence, he and McGuinness applied to enter the 1919 Great Air Race, which was offering a prize of £10,000 to the first successful flight from Great Britain to Australia in a machine manned by Australians.

Unfortunately he had to withdraw, however, following the death of his sponsor – but, in a quirk of fate that was to change Australia forever, he and McGuinness were hired to survey Northern Australia for landing fields for the race. They bought a model T Ford and, together with a mechanic, set off from Longreach in QLD, through Winton, Kynuna and Katherine and on to Darwin.

It was a long, grinding journey through dust and heat and over roads that were, at best, bad. It reinforced to the three men just how remote

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FLEET AIR ARM

2020

The Year in Review



In the last few days of 2020 the Fleet Air Arm HQ at Albatross kindly provided this update on the year in review. Our thanks to CMDR Chris Smith, who drafted it, and to D/COMFAA, CAPT Matt Royals, for orchestrating it.

Defence Image by LSIS Leo Baumgartner

At the last update, the Fleet Air Arm (FAA) had just completed support to the national bushfire emergency that had consumed the nation's focus for a majority of the summer.

It was expected that upon completion of support to the bushfire crisis and subsequent flood support, the Fleet Air Arm would be able to return to business as usual. However, the challenges and demands of the COVID-19 pandemic tempered that plan. Although the Fleet Air Arm has been somewhat restricted with community engagement and interaction, I assure all readers that the focus of preparing and providing lethal maritime aviation continued unabated across a broad range of arenas and areas throughout the year.

In October, a new Aviation workgroup – Remote Pilot Warfare Officer (RPWO) – was established within Navy. This workgroup will operate Navy's unmanned aircraft systems and, in conjunction with AT personnel, will deliver unmanned aviation capability at sea now and in the future. Maritime Unmanned Aircraft Systems (MUAS) intended to improve the situational awareness of our ships will be delivered through Project Sea 129 Phase 5. Creating the RPWO workgroup has ensured that Navy is positioned to concurrently achieve the experimental needs of MUAS in the immediate term, while also building a robust work force to meet future requirements. Operation of unmanned aircraft requires war fighters with a deep

specialisation in the application of remote and autonomous systems in maritime warfare and the aviation environment. The creation of the RPWO workgroup provides a key human interface to complement the advanced remote sensors and technologies that will be delivered as part of Project Sea 129-5.

Of note as we enter in the High Risk Weather Season, the FAA is again poised to provide support where required, though we hope for the good of the nation that this year's requirements will be significantly less than the 2019/20 summer!

Below is a broad summary of this year's Squadron activities:

723 Squadron

723 Squadron has continued to train and develop the Aircrewman, Pilots and Maritime Aviation Warfare Officers (AvWO) for Navy and Army. Three intimate graduation ceremonies were held during the year; unfortunately without friends and family members present due to COVID-19 constraints.

In 2020 the Squadron graduated 29 Aircrewman, 22 Pilots and 6 AvWO. Many course members immediately posted to operational Flying Training on the MH-60R, ARH Tiger, MRH-90 and CH-47 aircraft. The newly developed Instructor Training Wing continues to develop the trainers and mentors for both

Ab-Initio and Operational Flying.

The largest development this year for 723 SQN has been the completion of trial courses for AvWO Basic (Ab-Initio) and the new RPWO specialisation. Both of these courses have been a resounding success. Navy is also repatriating all AvWO ab-initio training from East Sale to 723 SQN in January. The 'all through rotary wing AvWO course' realises a significant time saving compared to the East Sale / 723 SQN combined course. The final East Sale AvWO course (79 AvWO Course) graduated on 3 December 2020.

2021 will see the Squadron, in conjunction with its industry partner Boeing Defence Australia, expand to deliver new aircrew instructor courses, RPWO students and ever increasing numbers of ab-initio ADF rotary wing aircrew.

725 Squadron

725 Squadron remains focused on the Training of personnel for the MH-60R Maritime Combat Helicopter

A 725 Squadron MH-60R off Sydney.



Above: A 723 Squadron EC-135

(MCH). This includes aircrew Operational Flying Training and maintenance personnel training. This focus upon training and development of our people has continued unchanged amidst the COVID-19 pandemic. The Squadron is pivotal to supplying personnel to the frontline MCH Squadron – 816 Squadron in support of embarked operations around the globe.

808 Squadron

The Maritime Support Helicopter (MSH) Squadron remains heavily focused on providing aviation embarked capability to the Amphibious Afloat Support Ships – HMA Ships Canberra, Adelaide and Choules.

Other tasking includes support to shore-based agencies. During recent months, 808 Squadron has been focused on conducting maintenance type training and maritime specialist aircrew training prior to these members joining flights at sea.

816 Squadron

816 Squadron is firmly committed to supporting and sustaining embarked MCH Flights across the globe, and in preparing those flights that are readying to deploy. The Squadron also

supported the Aircraft Maintenance and Flight Trials Unit during First of Class Flight Trials (FOCFT) in HMAS Canberra, and at time of publication is supporting FOCFT on MV Sycamore (the aviation training vessel).

Other notable events in 2020 included:

- The at sea Commissioning of the DDG HMAS Sydney.
- In late May, the Squadron's Executive Officer changed over with CMDR David Simpson (promoted on last day as XO) succeeded by LCDR Mark Flowerdew.
- HMAS Parramatta returned from a deployment in late May, and her Flight (816 SQN Flight 4) was presented the Collins Trophy by COMAUSFLT for the Flight foremost in all aspects of embarked aviation operations, safety, reliability and efficiency.

A number of Flights embarked this year in various surface platforms for a Regional Presence Deployment (RPD), which included participation in RIMPAC. This significant deployment within the COVID-19 environment saw the Task Group conduct a continuous at sea deployment for 117 days. Given risks associated with the global pandemic, the ships conducted only essential port visits outside of Australia, resupplying and refuelling in accordance with strict COVID-19 mitigation measures. The embarked aircraft were pivotal to both the High End Warfighting aims of the deployment and providing critical logistics support to the Task Group.

822X Squadron

The Unmanned Aircraft Squadron 822X continued to develop and refine the Fleet Air Arm's operational knowledge and experience, develop orders and procedures supporting safe UAS operations and assess UAS capability options that support integrated

A Schiebel S-100 Unmanned Aerial Vehicle



warfare outcomes for the future Fleet. Specifically, the Squadron is experimenting with a range of systems to inform Project SEA129-5, which will introduce a Maritime UAS to the Fleet.

During the year, 822X received a Heavy Fuel variant of the Schiebel S-100, and flying and maintenance was undertaken in order to understand the subtle differences that a different fuel brings with it. This evolution in awareness was conducted in concert with flying the Scan Eagle aircraft. 822X Squadron continues to expand both in Squadron numbers and flying hours, with the first newly qualified RPWO member joining the Squadron in November 2020. The attachment of this new PQ recognises another step toward mainstreaming the 822X capability within the fleet.

AIRCRAFT & MAINTENANCE FLIGHT TRIALS UNIT



AMAFTU was engaged predominantly on expanding the operating limits for the MH-60R

2020 was also a busy period for the test and trials unit, which was predominantly focused upon the expansion of operating limits for the MH-60R. The Unit embarked in HMAS Adelaide alongside 816 Squadron for this trial and development and is currently conducting trials on MV Sycamore. 2021 will see a number of trials with NUSHIP Supply.

CN Innovation Excellence Award

ON 18 May, Head of Navy Engineering RADM Lawrence presented Petty Officer Gavin Mason with the CN Innovation Excellence Award on 18 May on behalf of CN, who was unable to present the trophy himself due to COVID-19 travel restrictions.

After investigating a number of MH-60R fuel exposure incidents, Petty Officer Mason identified significant shortcomings with the tool used to take fuel samples,



Petty Officer Gavin Mason was awarded the CN Innovation Excellence Award for designing, testing and manufacturing a new tool to take fuel samples. (Defence image)

which was creating pre-conditions for hazardous chemical exposure. When research revealed no suitable and available off-the-shelf options to replace the existing tool, Petty Officer Mason designed, tested and manufactured a unique kit to allow for the safe sampling of MH-60R fuel tanks.

Since its introduction in July 2019, the innovation has been presented to the United States Navy at the H-60 System Safety Working Group, where it received positive feedback from both maintainers and operators. The United States Navy is examining adopting Petty Officer Mason's design for incorporation into the United States Navy to decrease their current fuel exposure incidents.

Petty Officer Mason's initiative and drive to take action in mitigating this threat was particularly commendable and demonstrated genuine compassion for our people and mastery of the Aviation Technician trade. The sampling system as designed and developed will see use through the MH-60R capability lifecycle, is adaptable to both the shore-based and embarked environments and its effectiveness is gaining attention amongst our allied MH-60 operators, enhancing our reputation as a leading Thinking Navy. ✈



COVID-19 has caused just about every Navy/FAA reunion over the past nine months to be cancelled, so it's great to be able to report on new plans to get together.

This one is a few months away but put the date in your diary and we'll remind you a bit closer to the event.

Naval Association of Australia

ALL NAVY REUNION

Maroochydore, Sunshine Coast

21-24 October 2021

Organiser: Bill Hayward 0411 024 985

Website details [here](#). ✈

Introducing the Vertiiia...

A new aviation start-up company is making bold claims to have developed the most efficient VTOL electric aircraft in the world. But what does that have to do with the Fleet Air Arm?

According to its website, the Vertiiia is the world's most efficient electric Vertical Take Off and Landing (VTOL) aircraft.

The combination of its unique aerodynamic and structural design means it travels further using less energy. It will cruise at 160 knots with a range of 130nm on batteries, or 430nm using Hydrogen, and will carry five passengers and a pilot – although future versions will be fully autonomous.

But what link does it have with the Fleet Air Arm?

Well, it is being designed and built in Australia by Andrew Moore, the son of our very own **Garry Moore** – a former Fleet Air Arm Tracker pilot.

Andrew Moore joined the RAN some time ago via ADFA and became an Aerospace Engineer. Together with his business partner **Siobhan Lyndon**, they have established AML Aviation. The company has grabbed the attention of Careflight, which has partnered with a goal of developing aeromedical applications for advanced electric flying vehicles.

The partnership forms part of a \$3m Cooperative Research Centres Project grant from the Federal Government for a two-year collaborative project with the University of Sydney and autonomy and sensing specialists, Mission Systems.

It is being built at Bankstown with test flights to take place at its facility in Narromine Airport in NSW, with a target of launching the aircraft into operational service by 2023. We will watch future developments closely and report back on progress.

A promotional video can be seen [here](#), and AML Aviation's website is [here](#). ✈



The prototype Vertiiia at Bankstown. The company hopes to have the aircraft operational by 2023.

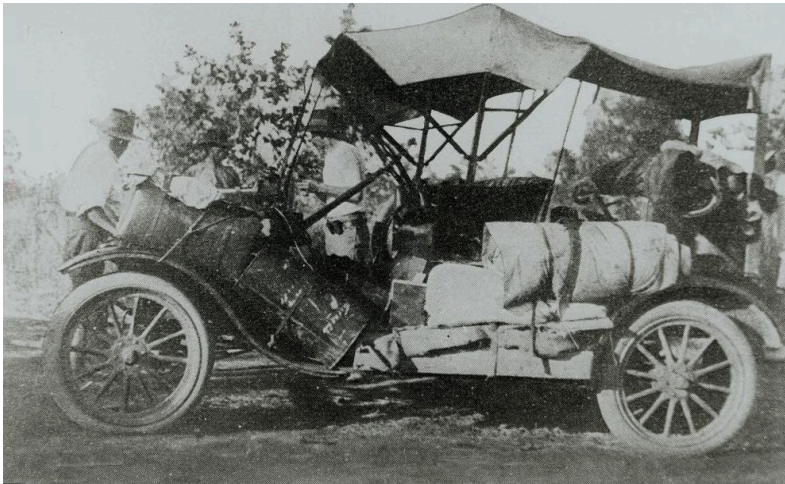


Andrew Moore and Siobhan Lyndon with the prototype Vertiiia at Bankstown aerodrome.

Qantas Turns 100 (continued from page 1)

Those far northern communities were, especially in the wet season when roads were frequently cut.

Afterwards, Fysh commented: "...we could not help being struck by the natural advantages which favoured the establishment of an air service in the district..."



The model T Ford used by Fysh and McGuinness for their survey of the north. They covered some 2000km during which time they conceived of a regional air service to connect the communities they passed though on the way.

Fysh and McGuinness reasoned that an airline service providing joyriding, air taxi trips and charter services spanning the Northern Territory and Westland Queensland area would be successful, and, after struggling to raise the necessary capital, registered their company on 16 November 1920. It was known as the Queensland And Northern Territories Aerial Services, or QANTAS for short – a name that

McMaster, one of their early shareholders, noted "...it has Anzac as its inspiring factor."

The original plans for air-taxi work and joyriding gave way to airmail services, which would link the settlements between Longreach and Darwin – specifically, with connections at Winton, Cloncurry, Avon Downs, Anthony Lagoon, Newcastle Waters and Katherine. It would make it the longest direct air service in the world at that time.

The airline acquired a wool store for its first hangar at Winton and on 7th February 1921 the first and only Board Meeting at that locality was held at the Winton Club. It made a quick decision to move its headquarters to Longreach, which would be more central to operations and with easier access to passengers and spare parts.

Their first aircraft were Avro 504Ks – two seater training aircraft of a type that had become the most-produced aircraft of any kind that served in the first World War. It was quickly followed an Avro 547 triplane which was considered a revolution in aircraft technology as it was able to hold four passengers in an enclosed cabin.

The very first days of the airline were fraught, with both Fysh and McGuinness frequently losing their way as they attempted to fly over flat and featureless terrain: indeed, one passenger who had shares in the company swore upon landing that he would never set foot in an aircraft again.

By 1922, however, QANTAS was successful in bidding for the second scheduled air route, between



The early QANTAS office at Longreach, QLD. The airline was originally established at Winton, some 200 km to the north west, but the first and only Board meeting in that town decided to move to the larger locality. It explains why, to this day, both towns claim to be the birthplace of QANTAS. (Wikipedia).

Charleville and Conclurry. The route was backed by Government, forging a relationship between the company and regional politicians. When an airmail route to England was planned QANTAS successfully tendered, with Fysh involved in planning the venture in the years 1931 to 1933. The final agreement saw the airline flying the mail to Singapore where British Imperial Airways took over. This led to a merger in the form of a new company, Qantas Empire Airways, with both companies holding 50% of the stock. Fysh was the managing director in both QANTAS and this new company. He was also a co-founder in Tasman Empire Airways, which would later become Air New Zealand.

The War Years

In its 100 year history, QANTAS has earned the title of the world's safest airline. Its last peacetime fatal accident was in 1951 when a De Havilland Dragon crashed into the Central Highlands of PNG, killing all three people aboard.

But its war years were dark, with 14 crewmembers and 79 passengers lost to Japanese aircraft off Java and Timor, or on allied support missions to the war zone. All but one of its Empire Flying Boats were lost to enemy action.

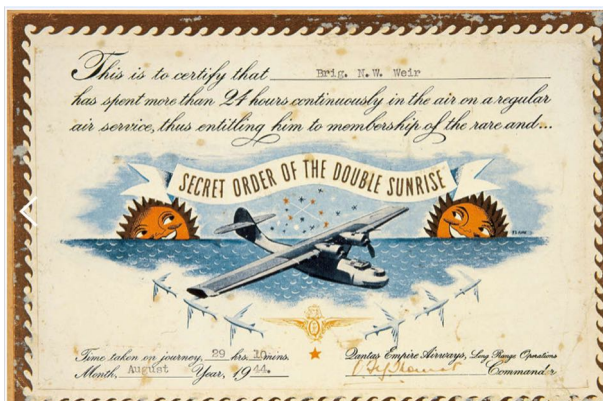
The airline's role in the war was extraordinary, with 30-hour plus non-stop Catalina flights through enemy territory including its 'double sunrise service' from Perth to Colombo to bring much needed mail and people. A total of five Catalinas were used, each named after primary stars used by the navigators to find their way. In all, 271 safe crossings were made, with over 100,000 pounds of mail and 648 passengers (three at a time). Each passenger received a certificate awarding membership to the "Rare and Secret Order of the Double Sunrise" for the flight.

Liberator aircraft took over the flights in 1945 and passengers received "The Elevated Order of the Longest Hop' certificate. Incidentally, the Liberators were the first to carry the flying kangaroo symbol.

Post War Boom

These flights established QANTAS as the forerunner of long distance operations, a title it retains to this day. They also positioned the airline for post-war expansion: by 1958 it was operating a round the world service using four-engine Super Constellations.

In 1964 QANTAS reserved delivery positions for ten supersonic airliners comprising four Concorde and six



Top to bottom:[1] The enclosed cabin of the DH50 brought luxury to passengers from 1924. [2] Qantas Carpentaria seaplane at rest on the water circa 1938. [3] Passengers who endured the 30+ hours in a Catalina on the dangerous non-stop Perth to Colombo wartime flights received this certificate. [4].Soldiers with Qantas aircraft circa 1943. Images courtesy QANTAS.



Left: Qantas crews ferried 19 Cataline flying boats from the USA to Australia in 1941. From June of the following year they were operating the only regular air service between Ceylon and Perth, crossing 5,600 km non-stop in secret operations to collect passengers and deliver mail. Those who completed the flight were awarded a certificate of membership to 'The Rare and Secret Order of the Double Sunrise'.

Boeing 2702 aircraft. The latter were never built and the airline relinquished its Concorde options when it became evident that it would not be economical on long routes.

By March of 1959 it took delivery of the first Boeing 707 to be sold outside of the USA: it was used on trans-Pacific flights to San Francisco, with refuelling stops in Fiji and Hawaii. The 707 fleet would eventually grow to seven.

Ten years later QANTAS placed the largest single order in its history for four Boeing 747-238B wide bodied jets at a cost of \$123m. The 'jumbo' was perfect for the Australian carrier, which needed high passenger loads on long-haul flights to London and the United States.

1992 was a watershed year for QANTAS, when it absorbed Trans Australian Airlines and was privatised. The same year British Airways was successful in bidding for a 15% share of the Australian carrier.

But the airline wasn't just setting goals in long-distance flying – it was the first to introduce Business Class in '79 and invent the slide raft now in use on all large commercial aircraft. Its aircraft also provide a national strategic lift capability for peace or war: the evacuation of victims of Cyclone Tracy was a good example, as have been recent flights to repatriate people stranded overseas in the current pandemic.

By the early 2000s budget airlines were making an
(continued on page 15)

Who Says You Can't?

The first female CO (desig) of a nuclear-powered carrier has been selected for command.

The USN's aviation major command screen board has selected her for the position by FY22, although it is not yet clear which of the 11 nuclear carriers she will be appointed to.



Bauernschmidt received her wings in 1996 to fly with the helicopter AS Squadron Light 45 'Wolfpack' in San Diego.

She deployed with the destroyer USS John Young in the north Arabian Gulf before going on to accumulate over 3,000 flying hours in various localities from Alaska to Asia.

More recently she served as XO aboard the USS Abraham Lincoln, itself a nuclear-powered carrier, and in command of the amphibious transport dock the USS San Diego.

Service is about "contributing to something greater than yourself," Bauernschmidt recently told CBS News. "For me, it is about supporting and defending the Constitution of the United States. But it's also about these young men and women that I lead every day," she said. "They're pretty awesome."

Picture and story by the Association of Naval Aviation.

First Medals Awarded



The contribution of Fleet Air Arm members to **Operation Bursa** was recognised with the award of the Australian Service Medal (ASM) with clasp Counter Terrorism/Special Recovery (CT/SR) at a presentation ceremony at the Fleet Air Museum on 11 December 2020.

Operation Bursa was the protection of offshore oil rigs against potential terrorist attack. Navy provided air support to Special Forces from the commencement of Op Bursa in 1980, until the task was handed over to Army Aviation in 1990, with elements of HC723, HU816 and HS817 Squadrons being involved over that period, operating the Wessex and Sea King.

Those recognised at a ceremony, represent the “Pathfinder” group, who were the test cases in the awards process. Also recognised in the first group of recipients were: LSA Gary Macey and RAAF CPL James Campbell, who were killed in the crash of Wessex 825 in Bass Strait on 4 December 1983.

The ASM with CT/SR clasp was awarded to CAPT **Vic Battese** (ret'd); CDRE **Vince Di Pietro** (ret'd); CDRE **Peter Ashworth** (ret'd); CAPT **Mal Wright** (ret'd); CAPT **Marcus Peake** (ret'd)

The CT/SR clasp was awarded to CAPT **Andrew Whittaker**.

Those also in the “Pathfinder” group, but unable to attend were: VADM **Tim Barrett** (ret'd); CDRE **Brett Dowsing** (ret'd) and CPOATV **Ron Pritchard**.

As of 17 December 2020, the Op Bursa Recognition team had verified 176 applications, additional to those in the “Pathfinder” group. While delivery of the medals by mail is the present default method, the Op Bursa team are looking at other options to give greater recognition to recipients.

For those filling in the form, please ensure it is legible as a few hand written forms have been “open to interpretation”.

The FAAAA online form had to be taken down at the insistence of Defence IT, which said they would replicate it on the Defence network. Unfortunately, Defence IT is not in the same league as the FAAAA webmaster in responsiveness (many thanks to Marcus Peake for his continuing support). So, while we are waiting for the Defence online form, write clearly.



Presentation of the ASM(CT) at the Fleet Air Arm Museum. From left to right: CAPT Mal Wright (Ret'd), CAPT Vic Battese (Ret'd) CDRE Peter Ashworth (Ret'd), CDRE Don Dezentze (COMFAA) who made the award, CAPT Andrew Whittaker (Op Bursa ASM Project Director), CDRE Vince Di Pietro (Ret'd), CAPT Marcus Peake (Ret'd – FAAAA webmaster)

The team will be off-line from 18 Dec 20 until 18 Jan 21. During this period, please spread the word to your mates about applying. After the flood of applicants in the first few weeks, it has now become a trickle, although there are still hundreds of eligible people out there. The team looks forward to a full in-box when we return in January.

Defence image. Words by CAPT A. Whittaker.

So, What's Happening to the Website?



Readers of FlyBy would be aware that our website was brought to its knees back in August when one of the essential “plug-in” elements became incompatible with the core software code. It's been limping along ever since but we can't post new material or edit any complex existing page.

Our website appeal raised \$10,224 which is an astonishing amount. Thank you letters have been sent to all but a couple of people who we couldn't identify from their contribution details – but a huge THANK YOU to them, too! It is a wonderful testament that so many people care enough about the FAAAA and its website to hand over their hard-earned cash.

The amount raised means we can go ahead with the construction of a new website, and a contract has been issued to Webics Pty Ltd, a Nowra-based company. Work is currently underway and we are hopeful of a launch in March or April, noting the Christmas/New Year break has slowed things down somewhat.

So what will it look like? Well, the existing site served us well but was becoming dated and long in the tooth. The old “Slider”, which rotated pictures through a frame on the home page, will disappear to be replaced by smaller click-on-me images. This way people will be able to see what's on offer

at a glance, and access it quickly. The format will also better translate to smaller screens such as iPads and Smartphones.

We intend to keep the existing menu structure, however, so navigation around the site will be familiar, and of course we intend to keep all of the existing content which represents thousands of hours of work. You'll also have a 'News' section on the home page and will be able to contact the website team (me!) directly.

More updates in the next edition as the proof firms up.

Marcus Peake. Webmaster.

Wall of Service Update

Plaques from Order No. 47 have now been affixed to the Wall of Service and the [website list](#) and their location on the Wall has been updated. The order contained the following names:

T.R.HETHERINGTON R43207 CPO ATA4 Jan 66–Dec 13.
A.N.MUDGE O43225 LCDR AE Jan 66–Jun 95.
R.I. GAGNON O165860 CMDR (P) Feb 98–Aug 09.
O.L. NICHOLLS O3018 CMDR (P) Feb 68–Jul 16.
D.A. RUSSELL R51593 LEM(A) Jan 56 – Mar 62.
H.R. HURREN R38167 EM1(A) Mar 50 – Jun 53
B. BURDETT R50605 ? 55-61
J.D. DEERING R54530 EMAW Jul 58 – Jul 67.
P.W. GREENFIELD O2990 LEUT GLEX (P) Jan 68–Aug 79.
J.C. GORDON R109793 WOSTD Jan 71 – Jan 91.
J. McCORMACK O108580 CMDR GLEX(O) Jul 72 – Oct 98.
M.P. FOLKES O114061 CAPT (O)(HWI) Mar 75 – Mar 10.
K.J. VOTE O2679 LCDR GLEX(P) Mar 66 – Apr 86.
J. CLARK O105955 LEUT (P) Mar 70 – Mar 80
A. A. REYNE O107404 LCDR (P) Jan 70 – Dec 17
P.D. BLEACH S164428 LSNPC Aug 97 – Aug 12
E.M. KAVANAGH O2094 CMDR GLEX(P) Oct 62 – Nov 87

Order No. 48 is now open for applications with the following names so far:

K. ENGELSMAN O2154 CMDR (P) Feb 63 – Jul 10
E.H. DALE A35562 POAF(A) Dec 47 – Mar 54
W.J. CALLINGHAM R95087 CPOATA3 Oct 65 – Oct 85
J. McCAULEY O105961 LCDR(P) Mar 70 – Jan 84
W.R. WARE R51285 LSMET Aug 55 – Aug 61

Why not get your name put on the Wall as a lasting record of your Service? You'll find all the details about it (and the application form) [here](#). ✈

† REST IN PEACE †

Since the last edition of 'FlyBy' we have become aware of the loss of **Gary Sommer and Haddon Spurgeon**.

You can read a little more on our Obituary pages [here](#), and, if you are a member of the Association, you can leave a comment there if you wish. ✈

Queen of the Skies



With airlines rapidly parking and/or scrapping their Boeing 747 aircraft, the once largest and fastest passenger aircraft flying, it is probably fitting that it be remembered for the grand old lady of the sky that she was. Ted Goater tells us the story...

First flown commercially by Pan American on January 22nd 1970 she changed the economics of air travel, making an international flight affordable for the mass population. The last aircraft to bring about such a paradigm change, was the DC-3 way back in 1935, which had proved the viability of travel by air.

When I left the Fleet Air Arm in 1962 to pursue a career as a commercial airline-pilot I never dreamed that in the distant future I would have a command on such an aircraft, but twenty-one years, and 11,000 thousand command hours, flown on a variety of different aircraft later, I received a promotion to the 747 fleet with Singapore Airlines.

I would remain on the fleet for the next sixteen years, flying five of the eight different series, of which, eleven years were spent as a type check and training captain and would add an additional 11,000 hours on this aircraft to my logbook.

That time would encompass one engine failure on take-off, one precautionary in-flight shut down, one jammed flight control, one blown main-gear tyre, a leading-edge slat failure, a death on board and 4 bomb warnings. Just a small sample of the incidents experienced during long haul international flying.

Another aspect of the 747 was that with a total of 470 passengers and up to 17 crew, flying international routes, the level of authority and responsibility was increased.

My first favourable impressions were formed whilst undergoing the engineering ground school. The designers had put a of lot of thought into the amount of aircraft system



Ted Goater was born into a Naval family in the UK during the Battle of Britain. In his teen years he contracted a debilitating bone disease which prompted a move to a more healthy environment in Australia.

He spent two years as a Jackaroo on a NSW sheep and cattle station before joining the RAN in 1958. He discharged 12 years later and, after obtaining his commercial pilot's license, flew in PNG before joining TAA.

A variety of airline jobs followed, including as a Check and Training Captain with Iran Airlines until the fall of the Shah, when he moved to Singapore to fly with the National Carrier there for the next 20 years. He retired in 1997.

Ted advises that in the journey of life has had three wives, raised one charming daughter and in 1999 suffered a heart attack which he survived thanks to a quick helicopter ride and some medical wizardry. He lives with his wife Julie and spends his summers aboard the trawler "Senibiau" when not relaxing on the sunshine coast.

duplication, a lot had to fail before it became a serious handling problem.

With four 90 kva generators, and an APU all of which were combined and switchable through a common bus system, there was plenty of electrical power. Four independent hydraulic systems powered all of the flight controls, nose wheel steering and split body and wing gears operation, all of which had normal and alternative means of being operated.

The flight controls were totally hydraulically powered, with no manual reversion available, which was a first for a Boeing aircraft. It was considered that due the size of the control surfaces and associated dynamic loading, it would be impractical to operate the controls manually.

Lateral control consisted of both inboard and outboard ailerons, the outboard locking out once the flaps were retracted, plus five roll spoilers. The massive rudder, split into upper and lower panels, controlled direction and 4 elevator surfaces the pitch, trimmed by means of an adjustable horizontal stabilizer. Six positions of slotted trailing edge flaps provided options for both T/Off and LDG configuration. Hydraulic power was distributed so that each control surface had two independent sources of power.

The design philosophy was such that it would be impossible to suffer a simultaneous loss of all flight controls.

It was sound reasoning, but unfortunately, Murphy as usual, had other ideas and when in 1984 a poorly repaired aft pressure bulkhead, the result of an earlier tail strike, blew out on a Japan Airlines aircraft as it climbed through 24,000ft. resulting in the loss of all four hydraulic systems and total flight control. After a valiant effort by the crew to gain control using thrust only, the aircraft crashed into Mount Takamagahara, killing all but four of the 524 souls on-board.

The initial type rating consisted of thirty-eight hours of simulator, split between two crew and covering every aspect of normal, alternative and emergency procedures, and whilst you started a session on all four engines, it certainly didn't end that way. Classroom sessions covered engineering and aircraft performance.

Finally, after completing a simulator check flight, two hours of actual aircraft time doing circuits and bumps, shared between myself and my co-pilot before commencing two



months of route training conducted on regular revenue flights.

But what from a pilot's point of view, was this "Jumbo," almost twice the weight and size of her predecessor the B-707, really like to fly?

The aircraft's size becomes apparent when you do your first pre-flight walk around – usually done by the flight engineer – and you walk under the fuselage and still look up at the belly. I am almost six feet tall, but can stand in an engine intake cowling with room to spare.

To get to the flight deck you first need to climb to the upper deck, via a circular stairway on a 200 series, or sloping stairway on a 300. Once there, the impression is that it is surprisingly small considering the aircraft's size, but once in the seat – the height of which has to be adjusted with reference to a set of eye levellers - the value of the ergonomically designed cockpit can be appreciated. Once seated the height of the cockpit above the ground becomes very apparent.

With an overall length of 232ft (71mtrs) and a wingspan of 195ft (60mtrs) the aircraft takes up quite a bit space, but ground manoeuvring is assisted by both nosewheel and body gear steering. The latter moving opposite to the direction of the nose wheel.

Once the brakes are released the aircraft wants to go and even at idle thrust will accelerate quickly along the taxiway and the technique is to allow the aircraft to reach around thirty knots before braking back to around ten knots. Riding the brakes and/or taxiing too fast only builds up the tyre and brake temperatures, which in turn effects stopping capability in the event of an abortive take off.

Carrying out a 180 degree on the runway requires an exercise in geometry due to the nose gear being located several feet behind the pilot. The runway edge is intercepted at about 45 degrees and the pilot positioned well over the edge before commencing the turn. A minimum of 150ft of runway width is required.

During the take-off, speeds are called at 50kts (Full rudder authority), 100kts (Engines and instruments normal), V1 (Decision Speed) and VR (Aircraft rotation). V2 (T/OFF Safety Speed) is achieved as the aircraft becomes airborne and at max weight is around 160kts depending on flap setting.

Rotation has to be carried out smoothly to a pre-calculated angle – around 10 degrees - determined as part of the take-off performance data. Over rotation will cause the tail to strike the runway, which was what had led to the previously mentioned Japan Airlines crash.

Once airborne and the gear retracted, body angle is increased to maintain V2+10kts until reaching acceleration height, which at most international airports, due to noise abatement requirements, is 3000ft.

Having met the prevailing ATC restrictions, a climb speed of up to 320kts until Mach transition, then M.82 to cruise level. Cruise speed for the 200 series was M.84 and the 300 M.85, the latter being higher due to the stretched upper deck reducing Mach drag.

During cruise the aircraft was a stable platform, with dual yaw dampers coupled with a gust response system and its sheer size and weight, it handled turbulence well.

Due to the artificial feel system aircraft handling was positive, and whilst the roll rate would not challenge an F15 or even a Sea Venom, it was smooth and effective. Pitch just needed a few blips of the stabilizer to keep the aircraft in longitudinal trim.

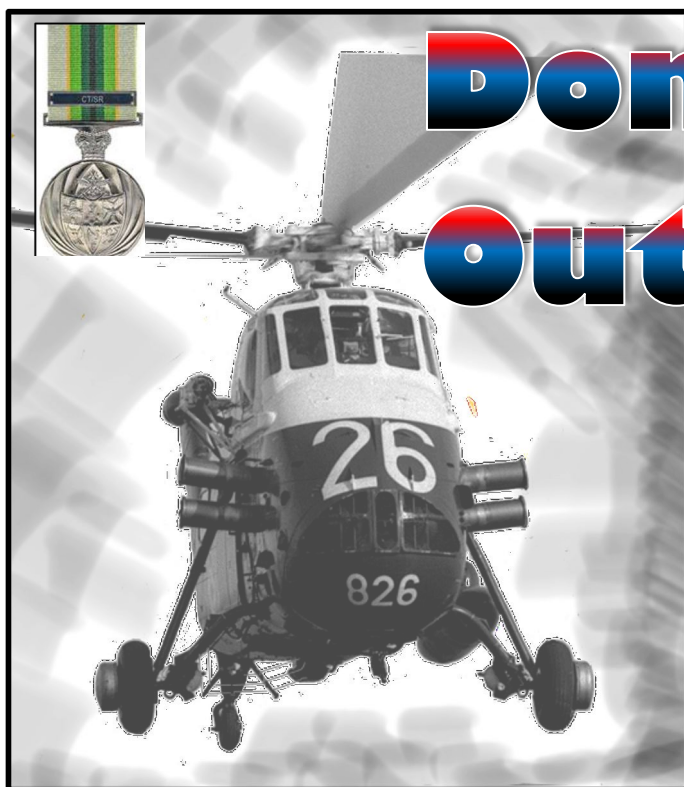
Whilst the aircraft had a maximum demonstrated cross-wind landing limit, it could handle much higher thanks to the massive rudders. Using the crab angle and wing down side slip technique 45kts at 90 degrees was not a problem. However, having said that, some pilots still managed to spoil their day by scraping an outboard engine pod on the runway.

This was usually caused by over-banking coupled with an excessive body angle and if the landing was heavy then wing bending would also add to the mix.

One cargo operator recently managed to scrape three pods, two on one side and one on the opposite... That took real talent!

Having spent much of my early flying years on tail-draggers, I personally never found cross wind landings much of a problem!

However, the 747 was definitely a hands-on aircraft, both the heaviest and fastest commercial jet of its era, it had a



Don't Miss Out!

If you maintained or flew Wessex or Sea Kings in support of Operation Bursa between 1980 and 1989 you may be eligible for the award of an Australian Service Medal (CT clasp)...but you will need to apply for it soon.

Find all the details on our website [here](#).

(and don't forget to tell all your mates about it).

lot of momentum, every manoeuvre had to be anticipated for the pilot to stay ahead of the aircraft.

During descent and approach, it was important to maintain the correct profile and configuration, with any deviation correctly early.

Configured for landing, the high degree of inertia could work either for you, or against, small adjustments of power early, was preferable to large adjustments late.

The body or deck angle on final approach is around 5 degrees and flaring add another 2-3 degrees, at which point with an eye distance between the cockpit and the main gear of 100ft and an eye height above the ground of around 50ft, it is was important to maintain the correct aiming point otherwise the aircraft would land short. Remember the eye levellers...

Actual landing is quite straight forward. On passing 30ft (Radio Altimeter) pitch up an additional 3 degrees, at 20 ft reduce power, hold the attitude and this magnificent aircraft would slip onto the runway like the lady she was.

On the odd occasion when the pucker factor registered a higher than normal sink rate, easing the pressure on the control column would save the day.

After fifty years of serving the industry, carrying millions of passengers safely to their intended destination, only a few will remain, mostly in a freight configuration.

The Boeing 747 really was the, "The Queen of the Skies."
Anson E (Ted) Goater.

The Story of QANTAS (continued from page 9)



Qantas Carpentaria Seaplane – Credit Qantas

appearance, and in 2004 QANTAS launched JetStar Airways with operations to 14 destinations in Australia. Not long afterwards the Jetstar Group was formed, with Jetstar Asia and Jetstar Japan joining the stable (the overseas arms are not wholly Qantas owned).

The appearance of the budget arms of the airline were not the only signs of financial and global pressures forcing change. As early as 1998 Qantas had become a founding member of a



A stunning image of HARS' Tracker 851 at Albion Park after a downpour. (HARS image)



In 2019 Qantas ran three 'Sunrise Project' flights, attempting the world's longest schedule from Sydney to New York and London to Sydney. Using B787-9 Dreamliners, the flights were mostly empty with the few passengers bagging Business Class beds – but the airline announced the trials as successful and officially gave the concept the go-ahead in the first months of 2020. COVID-19 struck a few weeks later and the project has been quietly shelved. Image: Qantas.

marketing alliance (One World), and strategic alliances – first with Singapore Airlines and later Emirates followed.

By the early 2000's the airline diverged further from its Boeing fleet: the first Airbus 330 was delivered in 2002, and 12 Airbus A380s were on order for delivery in 2008. The latter was a huge investment, based on the premise that passengers would be happy to be flown to major global hubs in 'super Jumbos', and then use smaller regional airliners to reach their destinations if required. In the event, more efficient and

smaller aircraft such as the Boeing Dreamliner were to eclipse this premise.

The spectacular engine failure of QF32 out of Singapore in November 2010 was a further set back, with the remainder of the A380 fleet being grounded for six months pending investigations into its cause. They were back in the air by mid 2011, but were to be grounded again less than ten years later – this time for a global pandemic.



The uncontained failure of the Rolls-Royce Trent engine on QF32 on 10 Nov 2010 did much for Qantas' reputation as a safe airline as every passenger survived, against all odds. It didn't help the financial viability of the aircraft type, however, with the fleet being grounded for some six months.

The pandemic is a huge test for Qantas, as it is for every airline. During the early part of 2020 it suspended its international operations indefinitely and its domestic capacity by about 60%. Two-thirds of its employees were stood down. Senior executives received a 30% pay cut, Board members became unpaid, and annual management bonuses were scrapped. Over 150 aircraft were grounded, some (like the 747) never to fly again.

But Qantas was born in the great Spanish Flu pandemic, and despite the savage cuts forced by COVID-19, it will survive: indeed, the airline is using the situation to regroup and restructure. Nobody can say when the pandemic will be over, if ever, but the signs for 2021 are promising with domestic operations gradually increasing and the promise of a vaccine bringing hope to a return to more normal times.



RU OK?

Christmas should be a time of joy and companionship, but it can also be extremely stressful. Financial pressure, being alone at such a time or perhaps even having demanding guests can all have an unwanted effect.

If you are feeling anxious, depressed or alone, you can reach out for help with a single phone call. A list of people who can help is provided here.

Remember too, that you have mates. Reach out to them too: we all have bad days and it is OK to let people know that you are not OK.



1800 142 072



1300 224 636



1300 659 467



1800 011 046



1800 628 036



1800 737 732



1300 789 978



1800 551 800



13 11 14

CAP TALLIES WANTED

Hi, my dad (Eric Samuel James) was a birdie on the Melbourne's commissioning cruise. I still have the commissioning ceremony memorabilia.

I am trying to frame up his medals and photos, I have hit a brick wall trying to obtain cap tally's(Albatross, Vengeance and Melbourne).

I would appreciate any advice on how to get them(I have tried eBay and I also don't expect much hope in obtaining Vengeance.

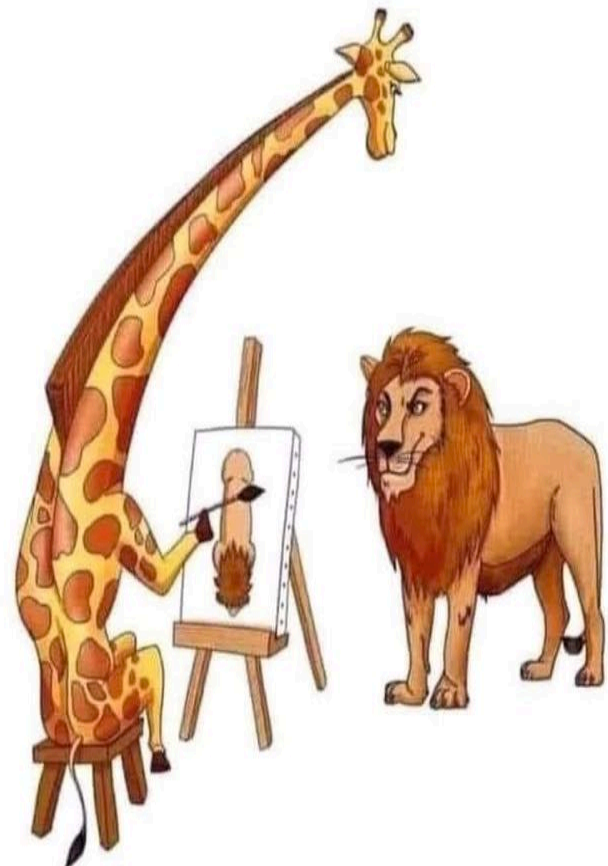
Cheers, Peter James 0409 230 054 or email [here](#). ✈

WHY BE A MEMBER OF THE FAAAA?

Those of our readers who are FAAAA members will shortly receive their December Slipstream in the post (for hardcopy recipients) – almost 50 pages filled with interesting stories, articles and photos. Softcopy recipients will already have their link and, hopefully, will have read and enjoyed the magazine.

Slipstream is just one reason why our modest membership fee is worth the money. This newsletter, which is currently free to non-members, is another. Add the camaraderie of belonging to an exclusive group, and the networking that we do, and the choice is a no-brainer.

So, if you are an existing member and haven't yet renewed your membership, please do! It will take a few moments and cost you less than a good cup of coffee a month. Details on next page. ✈



Life is about perspective. You might think you're a lion...but to some people you're a dick.

Subscription payment details for members:

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Account Name: FAAAA

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Amount: \$30.00 per annum.

Please note subs would be appreciated no later than end Jan21.

Cheques: The Treasurer FAAA QLD Divn, 6/74 Mattocks Rd., Varsity Lakes, QLD 4227. Ensure you put your full name on the back!

WA DIVISION has declined to publish its payment details. If you have any queries please contact the Secretary.

If you need some advice/help

You can make a payment as per the instructions on the left, but if you need to contact your Secretary you can do so using the links below.

[NSW – Dick Martin](#)

[ACT – George Sydney](#)

[VIC – Mal Smith](#)

[SA – Jan Akeroyd](#)

[TAS – Graham Nicholas](#)

[WA – Keith Taylor](#)

[QLD – John Stewart](#)

or: Contact the Database Manager, [Rocky Norris](#), who can offer advice on your membership details.

Did you know you can pay for future years of membership in advance (except ACT Division)? This will protect you from future price increases, and will save you from the chore of renewing each year.

Simply make your payment a multiple of however many years you wish to sign up for: e.g. for a NSW Slipstream 'Softcopy' recipient, one year = \$25, two years = \$50.00 and so on.

VIC DIVISION:

Account Name: FAAAA

BSB: 083 961

Account: 3108 23774.

Reference: Membership Number or your surname+initial

Amount: If you receive 'Hard Copy' Slipstream - \$45.00
Associate Members - \$10.00

Cheques: The Treasurer FAAAA VIC Division, PO Box 2179 RMH Post Office, PARKVILLE 3050. Ensure you put your full name on the back!

TAS DIVISION:

Account Name: FAAAA

BSB: 037 013

Account: 13 3119.

Reference: Membership Number or your surname+initial

Amount: \$35.00 per annum.

Cheques: The Treasurer FAAAA TAS Division, 7 Danbury Drive, LEGANA 7277. Ensure you put your full name on the back!