Slipstream

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HS748 Joins RAN

An Observer Reflects Flying in the HS748

Training, the UK and Delivery

First aircraft, N15-709, taken over Blackpool Tower (Lancashire England) on a gloomy and misty day before the aircraft was accepted by the RAN

By Jack McCaffrie
delivery Observer. Also available on
FAAAA website here.

My introduction to the HS-748 was both unexpected and sudden. As we were returning in HMAS Melbourne, from Hawaii and Exercise RIMPAC 72 in November of that year, a signal from Navy Office asked for my flying hours. Being a confirmed hourhog I doubt I even had to consult my log book to answer the question. The reason for the request was not revealed to me until we returned to NAS Nowra and I was informed that I would be the observer for the two HS-748 delivery flights from the UK in 1973.

This was surprising on two fronts. Firstly, we all knew that there was already an observer undergoing the Advanced Navigation Course at RAAF East Sale for this purpose. Clearly, he must have displeased the Air Force. Secondly, as one of the eleven observers sent to Pensacola Florida for flight training in the late 1960s I had not even completed a formal basic navigation course, instead graduating from the one-off course put together by LCDR Pe-

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ter Moy at Nowra in 1968. (For more details, please see Wings of Gold by Trev Rieck , Jed Hart and myself - a top read!).

In any event, straight after Christmas leave in late January 1973, I found myself heading down the Princes Highway to join the three pilots, Winston James, (the late) Bob Salmon (Sam) and Owen Nicholls (Nick), at RAAF East Sale. I spent about two months there undergoing an informal 748 navigation conversion before heading to the UK with Nick – the others left before us.

I was given a desk in the fairly spacious open plan office inhabited by the navigation instructors at the School of Air Navigation and so was not short of good advice. LCDR John Tapping was SNO at the time and the late Ted Wynberg RAN was also on the staff. Both were extremely helpful. The Crabs were a really good bunch too, from maritime, transport and bomber backgrounds and so all had their own particular approach to navigation. Some of the RAAF names I recall include Tony Taylor, the late J. J. MacKenzie, Ray Gibson, John Riches and Al Gilbert. As it turned out I found the bomber nav approach most to my liking, probably because it was less formal than that of the others and more in tune with what I had been doing myself in the S2E.

Crew for the initial delivery flight. From Left in uniform: Jack McCaffrie, Winston James, Bob Salmon and Owen Nicholls. The civilian in the middle is Albert "Albi" Vernon, the Hawker Siddeley Project Officer for the RAN HS748 acquisition . The same crew with the exception of Bob Salmon also delivered the second aircraft. (Photo taken at Hawker Siddeley factory at Woodford, Cheshire UK)

HS748 Team at the Hawker Siddeley factory at Woodford, UK

Clearly there were major differences between sitting in the Tacco seat of an S2E/G and sitting at the spacious navigation table in the 748. The navigator position was on the starboard side of the aircraft, behind the pilots and forward cargo space. Although the seat swivelled fore and aft for take-off and landing the normal working position was sitting facing the starboard side of the aircraft.

The navigator's instrument panel had two compass readouts and readouts of all the nav equipment such as ADF and VOR and TACAN as well as a very useful Doppler navigation system about which I remember little more than that I wished it had been fitted to our own aircraft. Ours came with a much-reduced version which was situated between the two pilots and thus of limited use to

Winston James in the command seat trying out his newly acquired binoculars

us observers. I don't recall using it very much.

Flying above 10,000 feet was also something of a novelty for me given that 8-9000 feet on an airways trip would have been the maximum experienced in the S2E. The extra speed was not an issue with the aircraft trueing at about 225kts at FL250. What did get my attention and was something I enjoyed, was having a Performance Manual and a Cruise Control Manual,which among other things took account of the aircraft performance and fuel usage at different altitudes and temperatures. Top of climb and top of descent became really significant points.

I undertook quite a few flights, many of which were quite lengthy day and night cross country navexes, along with the RAAF and I think Navy students who were on Navigator and Observer course. One of the really enjoyable aspects of these flights was the hot inflight meals provided. Possibly the most memorable (well I haven't forgotten it) was a weekend landaway to Darwin, on which John Tapping came along for the ride. We only got to Alice Springs before the aircraft became unserviceable and so had an enjoyable weekend in the Alice instead. Highlights included being looked after very nicely by the local Naval Association blokes and dinner at a local restaurant on the Saturday night. We had a fairly large round table for 7 or 8 of us and the defining moment was John T's response to the waitress when she asked how he would like his steak done. "Lop its horns and wipe its arse and stick it on the plate" was the response, which was accompanied by an audible intake of breath from those around us. In any event I felt reasonably comfortable in the aeroplane by the time Nick and I set off to join Winston and Sam in the UK.

The aircraft were built in the Hawker Siddeley factory at Woodford in Cheshire, just southeast of Manchester. This had been the Avro factory where many of the Lancasters were built during the War. As well as building the 748s the factory was also engaged in modifying the Victor bombers to air to air refuelling tankers. The factory social club was called "The Lancaster Club" and I still have the tie! As well as we four aviators there was a resident RAN AEO, Don Phipps and a small number of technical sailors who looked after the engineering

Ferry N15-709 29 May – 8 June 1973	Ferry N15-710 3 August – 15 August 1973
Woodford	Woodford
Rome	Rome
Athens *	Athens *
Ankara	Ankara
Tehran *	Tehran ****
Karachi *	Karachi *
Delhi ***	Delhi **
Calcutta	Calcutta
Bangkok *	Bangkok *
Butterworth *	Singapore **
Djakarta	Djakarta *
Bali *	Bali
Darwin	Darwin *
Alice Springs *	Alice Springs
Nowra	Nowra

Table 1 – Ferry Flight Routes
Overnights are shown by asterisks for each night

Jack McCaffrie at the Nav Station plotting a course

aspects of the aircraft build and learned what they could about it.

In the two months before we made the first delivery flight, we flew the aircraft quite a few times, often with Bill Else, the Hawker Siddeley test pilot. His party trick was doing a complete HS 748 circuit including take off and climb to 1,000 feet in 50 seconds. One of our more memorable local flights involved picking up then Captain David Leach, who was the Australian Naval Adviser in Australia House, from RAF Northolt in London and taking him to RNAS Culdrose in Cornwall, where we all enjoyed an overnight with a bunch of RNers and the RAN aviators who were there, either on exchange or as part of the team associated with the introduction of the Sea Kings.

We made several trips to London – by train – liaising with the RAN staff and the aviation staff officer, Mike Astbury, in particular. The RAAF staff officer, Wing Commander Dave Sutherland, a navigator, was also very helpful to me and if I remember correctly, had taken part in the delivery of the RAAF 748s. I also visited RAF Northolt where I was able to get all of the charts, enroute supplements and approach plates we were likely to need on the delivery flights. Because the Middle East was a bit unsettled, we chose a different route to that taken by the RAAF when delivering their 748s some years previously – we avoided Egypt, Saudi Arabia and the Gulf States. The route we took is shown in Table 1. Overnights are shown by asterisks for each night – all multiple overnights except for the two in Singapore were caused by unserviceabilities.

Rather than recount a day by day description of the flights I'll just list a number of the highlights from both of them.

- Firstly, I should mention that flight planning never presented any problems. Although there were a few interesting experiences, RAF Northolt had provided us with all the charts and publications we needed.
- We had a passenger with us on the first ferry, as well as the four maintainers who had been at Woodford – Bob Griffiths, Doug Lange, Alan Bird and Michael Rischin. The passenger was Surgeon Commander Rex Gray, who somehow wangled his way onto the flight. Happily, we had no need of his professional services along the way. On the second ferry flight we carried Tom Cordner, who was the Hawker Siddeley representative who spent two years at Nowra.
- A highlight on the very first leg was the late Bob Salmon's determination to sound as 'Strine' as possible to the French air traffic controllers, who were working equally hard to sound ineffably French.
- We were supported on the ground by British Airways people at virtually all our stops and they were excellent. The food they provided us at the first stop, Ciampino in Rome, was quite outstanding – limited as it was to cold selections.
- For our first overnight, in Athens, our British Airways host took us on a tour of the major attractions, including the Acropolis. He then took us to dinner at an outdoor restaurant in the city, making for a memorable end to the first day.
- The day after we left Athens on the second ferry, members of the Black September terrorist group killed three and wounded fifty five in the terminal, using sub machine guns and hand grenades. Thirty five were taken hostage for a period of time. I guess we, in our military flying suits, would have been choice targets had it been when we were there.
- The fuel stop in Ankara was interesting in that I was escorted to and from flight planning by a young lady in some kind of uniform with a submachine gun slung over her shoulder. I'm still not sure whether she was protecting the Turks or me.
- For the leg from Ankara to Tehran our RNCs

HS748 '709' in right hand echelon formation with S2 Trackers 846, 852 circa mid-1970's

advised that there were navaids on the Soviet side of the country borders with very similar frequencies to those we would be using. They caused no problem and of at least equal interest was the mountainous terrain, with peaks in places above our single engine altitude. We had planned for this (hopefully unfulfilled) possibility by having escape routes down valleys to suitable emergency landing airfields. Interestingly, we had just got through that area when we ran into standing waves (downward flowing air as a result of wind blowing over the high mountains) and spent a few tense minutes at very high power on both engines just to maintain altitude. I guess you cannot plan for everything!

- Tehran (still under the rule of the Shah before the revolution) was most notable for the line up of US-origin military aircraft on the Air Force side of the main airport and for the name of the British Airways representative – Manny Shyster - who looked after us incredibly well.
- On the second ferry flight at Tehran we had a failure of the cabin air supercharger (an engine driven compressor that delivered air for pressurisation and air conditioning). This caused a few days delay while a replacement was sent to Tehran.
- Karachi was our introduction to the subcontinent and the pace of life in the flight planning offices was much slower than elsewhere. I also recall getting the sense that, when I opened the NOTAM folder, I was the first one to have done so for a while. In an enjoyable and surprising end to the day, the Foreign Affairs guys from the Consulate and their wives, had us over for a BBQ dinner that evening.
- Delhi was a very different experience. After overnighting on the first ferry, we had aimed to leave at around 0400 in the morning for Kolkata – to beat the heat. When I got to the aeroplane, after lodging the flight plan, I was surprised to see everyone standing around under the centre section near the main wheels. The reason became clear fairly quickly as there was a large pool of fuel on the ground. We had a major problem and were helped

Former Senior Sailors Eric Arnell (Air Technical Communications) on left and Lou "Blue" Triebels (Air Technical Weapons Electrical) on right in the cabin area on second ferry flight

out promptly by an Indian Air Force Sikh Sergeant. We had to defuel, dry the tanks and then investigate the cause of the leak and repair it. This task fell to CPO Bob Griffiths and over the succeeding couple of days I don't think anyone envied him the task of crawling inside the tanks.

- The other immediate problem we had was that Indian Immigration were unsure how to deal with us…we had left but we hadn't left. That took some time to resolve.

- On the morning before we looked likely to be able to depart I made a point of submitting the flight plan – that is 24 hours in advance - to ensure it would be dealt with by the time I rocked up the next day. I didn't know India. When I went to the office early next morning the flight plan was still sitting exactly where I had left it – untouched.

- During the approach to Kolkata on the first trip we were following a British Airways VC 10 when suddenly the airfield lost power to communications and navaids. Fortunately, we were VMC and so just carried on with the approach. Power was restored shortly before we landed and we switched across to Kolkata ground control just in time to hear the VC 10 captain venting furiously to air traffic.

- The subsequent legs to Bangkok, Butterworth, Singapore and Jakarta were uneventful and we were entertained very well in Jakarta by Ian Josselyn who was the Naval Attaché. This was unplanned, as we had earlier left Jakarta for Bali when about an hour into the flight those in the cabin alerted us to a slight oil leak from the starboard engine. We turned back to Jakarta, carefully monitoring engine indications. The problem turned out to be the cabin air supercharger again. Engineering in Australia approved us removing the supercharger drive shaft and blanking off the oil lines to get home. This led us to discover that the 748's screaming Auxiliary Power Unit (APU) is in fact relatively quiet – it is the supercharger it normally drives that produces the noise!

- The Bali to Darwin leg was far and away the longest over water leg of the entire journey and the final day on the second ferry flying from Darwin to Nowra was easily our longest day in the air, but it felt good to be home.

This is a first of a series that hopefully can be developed on the HS748. The others planned are:

1. **RAN HS748s involvement in 'Cyclone Tracey';**
2. **The use of the RAN HS748 in VIP/transport; and**
3. **The use of the RAN HS748s in EW operations**

Cartoon by Ian Hughes

From HMAS Melbourne to Shandong: The Story of China's Aircraft Carrier Programme

Shandong post launch

Article supplied by
Peter 'PJ' Fleming
First Published in
Battle Machines website here

The Chinese just like their Soviet counterparts maintained that they won't be building aircraft carriers for the naval arm of People's Liberation Army (i.e. PLAN). Changing geo-political scenario and the rise of carrier centric fleets forced China to review its policies and start the procurement of aircraft carriers. In this article, you will get the complete story of China's carrier ambition as it went from no go to full speed ahead.

The communist parties in China and the Soviet Union followed different ideals which led to the Soviet-Sino split in the early 1960s. Thus USSR became the primary enemy for the Chinese. They feared a massive land invasion led by the Soviet army and supported by the Soviet air force. These forces could bring 1000s of tanks and aircraft to bear which meant that a similar force was required to stop their advance. Thus the land and air branches of PLA got a lot more attention than the PLAN. PLAN's role was simple, it was to accomplish the three following points and keep the Chinese coastline secure.

1. **First, conduct maritime guerrilla operations using small naval and naval aviation formations to attack and harass dispersed enemy forces.**
2. **Second, conduct rapid naval sorties to attack the enemy's sea lanes and coastal targets within China's immediate periphery.**
3. **Third, carry out littoral operations under cover of ground artillery and land-based aircraft.**

USSR started showing signs of an impending collapse starting from the mid 1980s. The German reunification left the cracks open for everyone to see. Thus over the years the threat from the Soviet Union went down in the priority list and the PLAN started getting attention in terms of resources and funds. These events coincided with the rise of Admiral Liu Huaqing, the father of China's modern navy.

He wanted the PLAN to increase its capabilities and suggested a major shift in its


COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF ADMINISTRATIVE SERVICES
PURCHASING DIVISION

PURCHASE AND REMOVAL OF RAN VESSEL
(FORMERLY HMAS "MELBOURNE")
EX DEPARTMENT OF DEFENCE (NAVY)
SYDNEY, N.S.W.

REQUEST NO. 83/7247

CLOSING DATE: THURSDAY, 19 APRIL, 1984.

Tenders for the above vessel will be received until two (2) o'clock in local time on the closing date shown. Tenders must be enclosed in a plain envelope endorsed with the REQUEST NO. and CLOSING DATE shown above and addressed to:

Regional Purchasing Officer
Department of Administrative Services,
Purchasing Division,
6th Floor, North Tower,
CASA Centre,
Akuna Street,
CANBERRA CITY, A.C.T. 2601,
AUSTRALIA.

Alternatively tenders may be lodged by Telegram addressed "PURDIVDAS CANBERRA" or by Telex to AA 62180.

LOCATION: The vessel is moored at Bradleys Head Dolphins, Athol Bay, Sydney, N.S.W. Arrangements to inspect it may be made by contacting the Master Attendant, CPO D. Baker or his representative, Department of Defence (Navy), Garden Island, Sydney, Australia (telephone (02) 359 2867).

COPIES OF TENDER DOCUMENTS MAY BE OBTAINED FROM REGIONAL PURCHASING OFFICER, DEPT. OF ADMINISTRATIVE SERVICES, 12TH FLOOR, WESTFIELD TOWERS, 100 WILLIAM ST., SYDNEY, N.S.W. 2011, P.O. BOX 262, KINGS CROSS 2011. PHONE 358 0368.

DEPARTMENT OF ADMINISTRATIVE SERVICES

The Advertisement offering HMAS Melbourne for sale

strategy from "Coastal Defence" to "Offshore Defence" (the names of strategies are direct translations from the actual Chinese names). PLAN was now expected to operate independently, far away from China's coasts, in short blue water operations.

Blue water operations need large aircraft carriers for power projection along with nuclear submarines for sea denial and protecting the aircraft carriers. Surface escorts are also needed for keeping the carriers safe. An impressive fleet of replenishment vessels is needed to make sure that all these assets are well supplied irrespective of where they are operating. Thus the new strategy included developing and operating indigenous aircraft carriers, nuclear powered submarines, escorts, replenishment vessels etc. All of this fell under the "Offshore Defence" strategy, which was approved in 1986.

Varyag under tow

The Kuznetsov Sisters with tugs in attendance

Developing all of the aforementioned assets at once is nearly impossible. The Chinese first concentrated on developing potent escorts, replenishment vessels and nuclear submarines thus scaling back the plans for an indigenous carrier. They started looking for a carrier which could be procured directly. They managed to procure four vessels, HMAS *Melbourne, Kiev, Minsk* and *Varyag* (second **Admiral Kuznetsov** class vessel). These vessels accomplished different roles for the Chinese.

HMAS Melbourne

Melbourne was a Majestic class '**C**atapult **A**ssisted **T**ake-**O**ff **B**ut **A**rrested **R**ecovery' (CATOBAR) carrier operated by the RAN. She was decommissioned in 1982. After spending three years in 'mothballs' she was sold to the Chinese for scrapping. The Australians had removed all of the sensitive technical equipment except for the catapult, arresting gear and the mirror landing system. The mirror landing system was a visual aid to guide the pilot onto the flight deck. In this approach the pilot was also assisted by the Landing Signals Officer (know as 'Paddles') with verbal advice from the LSO platform as heard **here** (online subscribers only). All modern carriers have advanced derivatives of the original concept developed by the British. Before this system was developed, a 'Batsman' was tasked to guide the pilot onto the deck using what looked like table tennis bats providing hand signals as seen **here** (for online subscribers – 1:20 min. in).

Reportedly, PLAN officials

Decommissioned HMAS Melbourne at Athol Bight in the condition the Chinese bought her

knew nothing about the vessel until it had arrived in China. The scrapping was expected to begin immediately but it didn't happen. From 1985 to 1994, nine years she lay undisturbed except for occasional visits by officers and engineers of PLAN. They reportedly studied her inside out during this time. The catapult, arresting gear and the landing sight were removed and installed at a base in Dalian on a replica flight deck after being analysed. Interestingly a J-8 was reportedly modified and used for flight tests from the facility. The scrapping began in 1994 and took several years to complete. If online sources are to be trusted, the scrapping ended in the 2002. It took eight years to break down the 15,740 ton (not loaded) vessel. It is obvious that each and every part which came off the carrier was extensively studied before being melted down for reuse.

Liaoning during her commissioning ceremony

The *Melbourne* thus gave the Chinese carrier programme a shot in the arm. It helped them develop some of the much needed procedures for carrier ops before a carrier could be fielded for real. It also gave them chance at examining systems like catapults and arrestor gear which are essential for carrier operations. *Melbourne* was a WW2 era design but helped fill the void of information required to design carriers.

The Deception

The Chinese procured three carriers after *Melbourne: Kiev, Minsk and Varyag*. *Minsk* was procured in 1995 from Russia for conversion into a tourist attraction followed by *Varyag* which was supposed to be a tourist attraction too. *Kiev* was procured the last in 1996 for conversion into a theme park. According to Deciphering Chinese strategic deception by Kong, Eu Yen it was a deception. It was done as the Chinese wanted the procurement to be discrete as it would have strained its relationship with the west. Thus the procurement of former Soviet carriers *Kiev* and *Minsk* was carried out to strengthen the cover story that these vessels were being bought for conversion into tourist attractions instead of military use. *Varyag* was thus bought on the same grounds and ended up in a dry dock in Dalian.

From this dry dock emerged *Liaoning,* China's first combat ready aircraft carrier. *Varyag* was quietly refurbished, painted, modified to make sure it works well with PLAN assets and commissioned on 25 Sept 2012. While the work on *Liaoning* was going on, the Chinese built a full scale system's check mock-up in Wuhan to study various possible sensor configurations and finalise what would be installed on *Liaoning*. Mock-ups of jets and helicopters were also spotted on the deck.

Wuhan Mockup with a jet on the deck and the encircled gaps for deck edge elevators.

Chinese engineers with the T-10K3 from Ukraine in the background

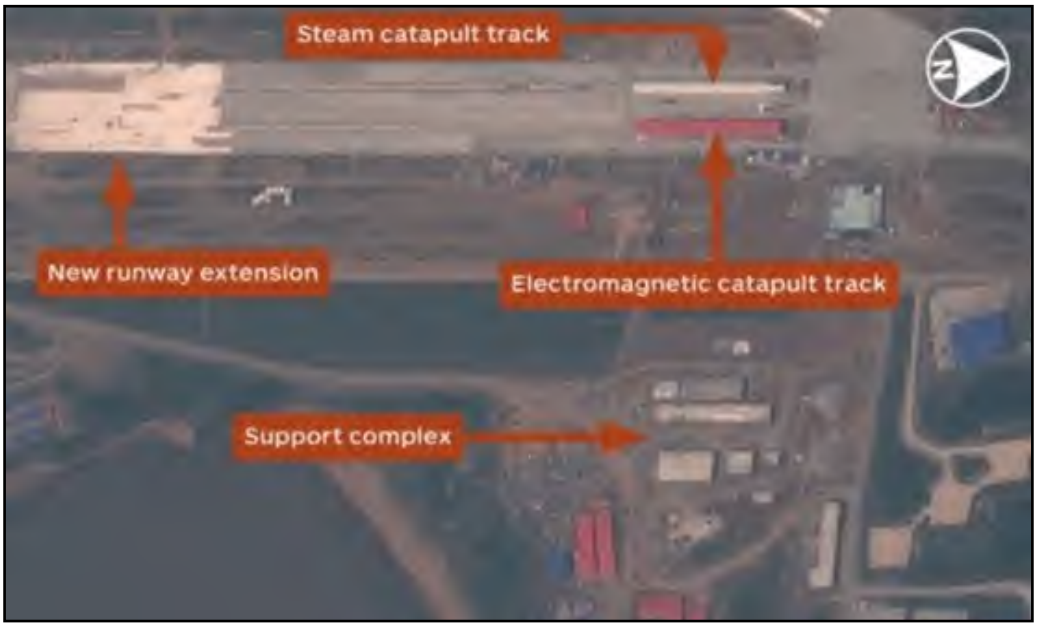
The Jets: J-15

The Chinese had been looking for carrier borne aircraft for some time. They started negotiations with Russia for procuring the Su-33. The Su-33 is arguably the best 4th generation naval fighter design in service today. Its Flanker lineage offers superb agility, payload and range even while operating from a ski-jump. Thus the Naval Flanker offered by Russia was arguably the best possible choice for the Chinese. Disputes stopped the sale of off the shelf jets from Russia and the Chinese had to make a suitable replacement domestically.

They had reportedly procured a T-10K prototype from Ukraine in 2001 and it was handed over to the domestic aviation industry for analysis. The aspects necessary for safe and sustained carrier ops were then added to the J-11 thus giving rise to the J-15. It is interesting that the Su-33 was developed from the Su-27 the aircraft J-11 derives its design from. The prototype flew for the first time in August 2009 and bore close resemblance to the Su-33. It sported similar folding wings and tail surfaces along with canards and a twin wheel nose landing gear. Interestingly, commissioning ceremony revealed a picture of the deck with tyre marks indicating some ops had been done.

The inhouse development of J-15 is a big boon for the Chinese. They now know how to design future carrier borne aircraft with no external assistance. They can easily modify the fighters they have built for future proofing them as they age without going through the tedious task of doing it via Sukhoi. Another interesting point worth noting is that it has been known for a long time that follow on carriers could be CATOBAR. The J-15 is designed for launches from a ski-jump and hence lacks a nose tow link. Such a link connects the nose gear to the catapult for catapult assisted launches. A J-15 has been seen flying with such a link over China hinting at a CATOBAR variant. This along with the presence of an **E**lectro**M**agnetic **A**ircraft **L**aunch **S**ystem (EMALS) and Steam Catapult testing site has confirmed that the Chinese are deeply interested in CATOBAR carriers and we might see such vessels serving the PLAN in the near future.

(The ElectroMagnetic Aircraft Launch System is a type of aircraft launching system developed by General Atomics for the USN. The system launches carrier based aircraft by means of a catapult employing a linear induction motor rather than the conventional steam piston. EMALS was first installed on the aircraft carrier, USS Gerald R. Ford.



EMALS & Steam catapult testing site

Its main advantage is that it accelerates aircraft more smoothly, putting less stress on their airframes. Compared to steam catapults, the EMALS also weighs less and is expected to cost less. It requires less maintenance, and can launch both heavier and lighter aircraft than a steam piston-driven system. EMALS also reduces the carrier's requirement of fresh water, thus reducing the demand for energy-intensive desalination.

*China is reportedly developing a similar system which is expected to be used on China's Type 003 aircraft carriers. More can be read **here** on the EMALS and China's progression with Type 003 for online only . . . . Ed)*

Developing an Indigenous Carrier

The obvious step after commissioning a refurbished carrier is to build one from the scratch using all the knowhow gained over the years. The Chinese had reportedly obtained all of the blue prints used to build *Varyag* from Ukraine. These designs played a monumental role in designing and building the *Shandong*. The Chinese designate important naval projects using the Type designation for eg. Type 052D destroyer. The carriers were thus designated as follows:

1. **Type 001: *Liaoning***
2. **Type 001A: A carrier based on *Liaoning's* design (turned out to be *Shandong*)**

An aerial view comparison between Liaoning (001) to the left and Shandong (001A) to the right

A Type 901 replenishment vessel used by both Liaoning and Shandong

Copy and Reports Close for Next Issue On 1 March 2022

Slipstream will also look at the development of China's Aircraft-Carrier 003 in the March 2022 issue

Slipstream email: slipstream_faaaa@outlook.com

Note the difference between the two ships front on. Liaoning (001) to the left and Shandong (001A) to the right. The islands are vastly different.

3. Type 002 and so on: Possible CATOBAR carriers of higher displacement, future ones might have nuclear propulsion.

Rumours were afloat in the 2013 that work on a carrier had begun in the Dalian shipyard. By Q1 of 2015, keel of an unknown vessel had been laid down in the same drydock *Liaoning* had occupied. As time progressed and more modules were assembled carrier like features were observed. The vessel had a definitive hangar which according to some was a hold of a bulk freighter. Additional modules had the space for deck edge elevators confirmed that the said vessel was a carrier indeed. Its dimensions matched those of *Liaoning* too. Then in September 2016, the ski-jump was placed which confirmed that this vessel was indeed 001A and not some ordinary freighter. The island came on in September and then on a fateful day in April 2017 the vessel was launched.

Shandong features a lot of changes over *Liaoning* and the baseline *Kuznetsov* design. The island is shorter allowing 1-2 more J-15s to be parked on the deck. The flight deck has been extended on sponsons in the aft-starboard quarter allowing a further 2 J-15s to be parked there thus increasing the complement of aircraft carried by four over the 58 of *Liaoning/ Kuznetsov*. The redesigned island sports Type 346A radar arrays placed at an angle instead of the Type 346 on *Liaoning* which are arranged differently. The hangar is still a point of debate as some believe it is extended to cover the area occupied by Granit batteries on *Kuznetsov* and *Liaoning* whereas others don't believe it was changed.

The vessel left her maiden sea trials on 13 May 2018, spent around five days at sea before returning on 18 May. After the trials ended, she was put up in the drydock for post trial mods or repairs. Unlike *Liaoning,* it seems no J-15 ops were conducted as tyre marks were absent. Interestingly, China's first carrier *Liaoning* arrived at the Dalian yard along for first pictures showcasing both carriers.

Over all once the Chinese have perfected all factors of carrier ops (if they haven't already) they will soon have 2 very potent aircraft carriers at service. *Liaoning* and *Shandong* will have an impressive fleet of escorts keeping them safe. Escorts would include the under construction Type 055, in service 052D, 052C destroyers and 054A frigates. First Type 901 replenishment vessel has also started its sea trials when this article was being written and it has been specifically designed for sustained carrier ops away from the shores. With such an impressive fleet being built, these carriers will allow the Chinese to buttress their territorial claims and deter other navies from operating in waters close to where these carriers are present.

(Peter 'PJ' Fleming served in the FAA from 1970-84 rising to the rank of POATA. Following cessation of the FAA fixed wing aircraft PJ transferred to the RAAF and continued service from 1984-93).

DEATH NOTICES

CHAMPION, John ex-LEUT (P). John died on 1 November 2021 at Albury aged 91. He is survived by three of his children Antonia, Pauline and Alan.

John was a Life Member of the FAAAA. RIP

Mal Smith
Secretary VIC Division

GREEN John, ex-CPOAVN. John died on 10 November 2021 and is survived by his partner Rodney Tilley. John's Funeral was held at Oakwood Funerals, Booragoon WA on 19 November 2021. He was a Life Member of the FAAAA and founding member.

Keith Taylor
Secretary WA Division

MEYN, Vic, ex-WGCDR RAAF. Died on 7 December 2021 aged 87. Vic served for two years with the FAA as SATCO NAS Nowra 1971-72. Vic is survived by his wife, son and daughter.

Paul Shiels
Editor Slipstream

STACE, Max ex-NAMAE. Max crossed the bar on Tuesday 25 October 2021. Condolence go out to his family and friends.

Dick Martin
Secretary NSW Division

WRIGHT Kevin Charles, ex-CSAAW (CPO). Kevin crossed the bar on 2 November 2021 aged 92. Our condolences go out to family and friends

Dick Martin
Secretary NSW Division

Video and voice transmission by YouTuber 'hypohystericalhistory' found here (for online subscribers. URL https://www.youtube.com/watch?v=0QIA4bn4Pvc) Converted from video to text By Paul Shiels

On 28 November 2014 HMAS *Canberra* was commissioned into the RAN at Fleet Base East in Sydney. At 230 metres in length 32 metres wide and displacing 27000 tons at full load, the two *Canberra class* LHDs are the largest vessels ever operated by the RAN being substantially longer wider and heavier than the Majestic class aircraft carriers HMAS *Melbourne* and HMAS *Sydney*. These large ships look like aircraft carriers with an island, flat top runway and even a ski jump which is designed to facilitate short take-off and vertical landing aircraft for STOVL operations. They are a different kind of ship. These vessels are classified as a Landing Helicopter Dock or LHD, which are primarily designed to transport large numbers of personnel and their equipment and deploy these forces by both helicopter and landing craft.

Although these vessels were intended from their initial selection to act as amphibious warfare assets their inherent aviation capability immediately stimulated debate over their possible use in the role of a light aircraft carrier. This centred on the potential acquisition of the F-35B for the Spanish *Juan Carlos*, the design on which the *Canberra class* is based. It routinely embarks AV-8B Harriers. The F-35B is under active consideration by the Spanish.

However, the ADF has not made any public statements including in any defence white paper which indicates that the option of deploying the F-35B is under active consideration. While this debate may be somewhat academic given the lack of overt interest by the ADF, this has notprevented many notable elements of the Australian strategic community from weighing in: including the Australian strategic policy institute (ASPI) with the notable exception of some contributors to the Navy League of Australia.

The prevailing argument has been a resounding rejection of the F-35B option spearheaded and echoed by many serving ADF members in outlets such as the strategist blog. This negative argument rests on five basic pillars:

1. *The Canberra class lacks the aviation capacity to be effective carriers;*
2. *The inclusion of the F-35B would reduce their utility as an amphibious warfare asset;*
3. *The air group would be too small to be of real utility;*
4. *Australia does not need this capability especially when it can rely on land-based fighters and its allies for air cover; and*
5. *The whole option would be far too costly*

Arguably it is a fair statement to claim that these general points have dominated the public discussion of the F-35B option over the half-decades since HMAS *Canber-*

ra commissioned. The ADF think-tank academic community, and indeed many informed commentators online, can often be found making some version of this negative argument; one that generally stymies any serious discussion on the future of naval air power in the ADF. But just how sound is this argument? It dominates this discussion within the Australian strategic community, concluding that the product of sound analysis is based on solid reasoning and a dispassionate appreciation of not only the costs but also the benefits; or is it at least potentially driven by other organizational factors such as inter-service rivalry fiefdom syndrome or doctrinal conservatism?

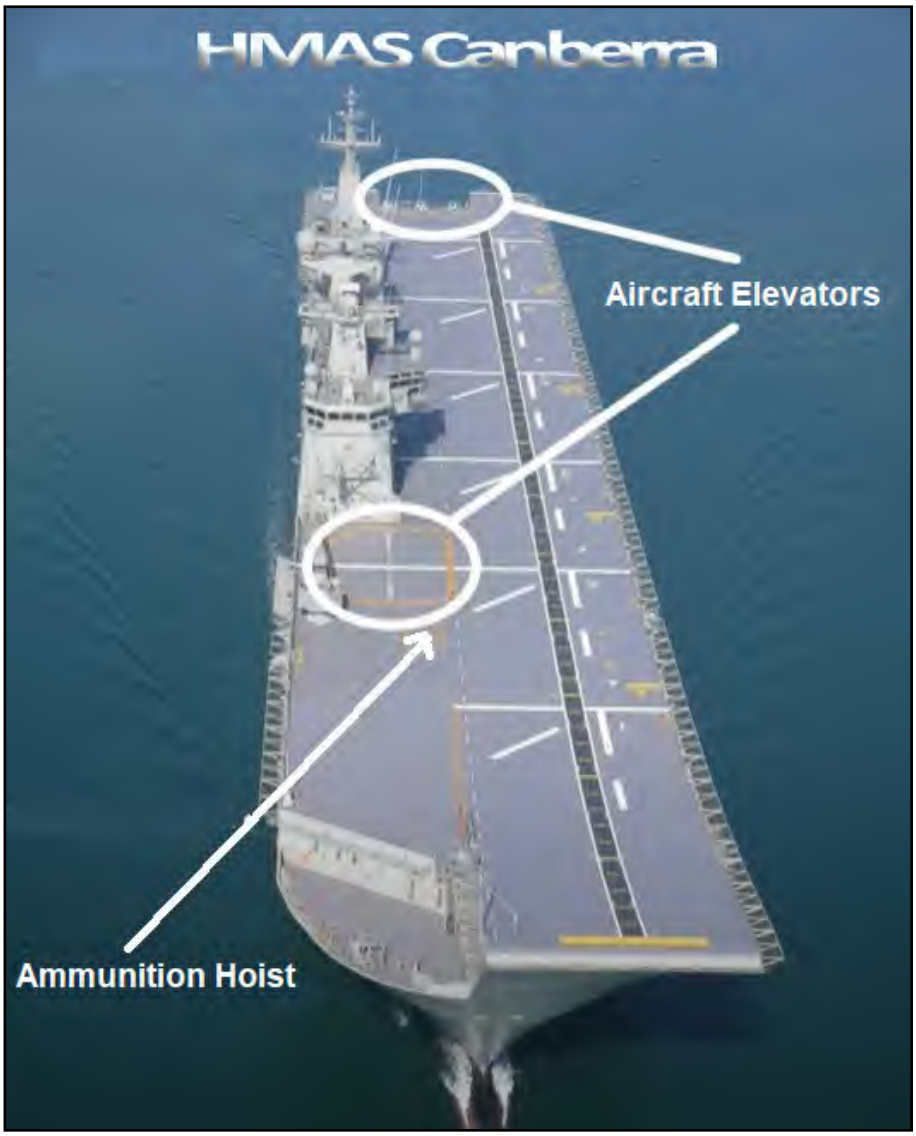
To the contrary of what may seem apparent, is not to argue the case for the F-35B option. Certainly, there may be very sound reasons for not walking down that path. The objective here is simply to examine the arguments which have dominated our discussion of the F-35B and the *Canberra class* so that discussion can be as informed as possible accounting for the limitations of open-source material given the hundreds of billions of dollars the Australian people will be investing over the next decade in the nation's defence. They deserve to be as informed as possible and arguably in this instance, the Australian strategic community has not served them well. Lastly in the interest of clarity, we need to define what the F-35B option is; arguably the simplest and cheapest path to Australian Naval Aviation would not be to reconstitute the Fleet Air Arm, but to follow a model established by the United States Marine Corps and RAF Joint Force Harrier concept and keep the F-35Bs in the RAAF.

Let's imagine the following potential force structure about the year 2030. No.1 Squadron RAAF replaces its 24 super hornets with 24 F-35Bs around the same time HMAS *Canberra* and HMAS *Adelaide* undergo a mid-life upgrade program to allow for F-35B operations. We could also consider the option of replacing the 16000 tonne Landing Ship Dock (LSD) HMAS *Choules* which is due for decommissioning around 2030 with a third LHD although this last option is not essential to the concept. It would provide substantial benefits in terms of both sustainment and flexibility under this model. No.1 Squadron RAAF would only deploy F-35B elements to these ships if required, but would normally operate from the RAAFs land bases or forward operating bases. This is easily the most achievable and cost-effective option and it will be this concept with which the anti-F-35B argument is compared throughout the following discussion.

Spanish Juan Carlos 1 at sea with six AV-8 Harriers and four Sea King helicopters on the Flight Deck. The ship can carry either 30 helicopters or 10/12 AV-8B Harrier II or F-35Bs and 10/12 helicopters, using the light vehicles bay as an additional storage zone.

Much has been made of the *Canberra class's* lack of aviation capacity by detractors of the F-35B option both in the online community and by academic commentators such as the Australian strategic policy institute to be sure *Canberra class* ships are not dedicated aircraft carriers. These vessels are LHDs that are optimised for amphibious operations and would require modification to allow for F-35B deployment. However, the *Canberra class* have a substantial amount of latent potential when it comes to STOVL operations although not identical to the Spanish *Juan Carlos 1*, the design upon which they are based. The *Canberra class* are very similar in size displacement internal dimensions, and capability.

The Spanish armada routinely deploy AV-8B Harrier stable aircraft on the *Juan Carlos-1* and in



2021 are currently planning to integrate the F-35B. This is some indication of the *Canberra class* latent potential as stable carriers both *Canberra* and *Adelaide* displace 27000 tons at full load which is some 35 percent larger than *Melbourne* and 22 percent larger than HMS *Invincible,* both of which were dedicated aircraft carriers.

The *Canberra class* flight deck and internal hanger space are equally impressive. The total flight deck is 202 metres long, has a total area of 4750 square metres and has a 13-degree ski jump designed to facilitate STOVL operations. Under the flight deck is the dedicated hangar space which is 990 meters squared and is over five metres high. This space is large enough for eight helicopters. Forward of the hangar is the light vehicle deck which provides an additional 1880 square meters of potential hanger area, all of which is simply one large open space providing a total area of 2870 square metres.

As a point of comparison, the 280 metre long 65000 ton HMS *Queen Elizabeth* class supercarrier which is designed to support an air group of up to 36 F-35Bs has a total hangar space of 5192 square metres, giving the *Canberra class* 55 per cent of the internal aviation facilities including deck parking space. This makes the *Canberra class* more than capable of deploying an air group composed of 12 F-35Bs and 4-6 helicopters. However, it takes more than hanger space and a flight deck to successfully operate stable fighters; indeed much has been made of the *Canberra class's* lack of fuel, munitions and supporting infrastructure to support STOVL operations and unhelpfully there is a lack of information in the public domain regarding these internal features.

The Spanish armada however is much more willing to describe *Juan Carlos-1's* internals. The Spanish LHD has fuel bunkers with a capacity of 800 tons of aviation fuel. Again, as a point of comparison, *Queen Elizabeth* has a capacity of around three million litres or 2400 tons. Considering *Queen Elizabeth* is almost three times the displacement and can deploy an air group three times the size, her aviation fuel bunkers are three times the size as well. Thus, if we compare a maximum air group of 12 F-35Bs for a *Canberra class* ship and 36 F-35Bs for *Queen Elizabeth* the embarked fuel per aircraft is proportional. .

So how long could 800 tons of aviation fuel sustain F-35B operations? The F-35B has an internal fuel capacity of just over six tons. If we assume every F-35B launched with full fuel tanks and returned with them empty then that is enough fuel for 120 sorties. Obviously, in real operations, each aircraft would not have to land with empty fuel tanks. This would extend the sortie count to a sustained operational tempo of 20 sorties per day, allowing for two sorties per aircraft, with two aircraft undergoing more substantial maintenance. That is enough fuel to sustain combat operations for six days, or seven if we take bring back fuel into account.

A much higher operational tempo could be achieved if *Canberra* was close to the area of combat, as every sortie would not require a full fuel load, making every aircraft effectively worth more in terms of combat effect. This is the meaning of the term proximity equals capability. We also have to remember that *Canberra* can be refuelled at sea and just one of the RAN's supply class replenishment oilers can deliver a further 1160 tons of aviation fuel.

Therefore, a deployed RAN Task Force would have enough fuel to sustain reasonably high-intensity F-35B operations at the level of a squadron for at least two weeks. The entire ground element of the Falklands war was conducted in three weeks. Clearly, the *Canberra class* have enough fuel

Magazine locker aboard Spanish LHD Juan Carlos 1

to sustain effective VSTOL operations. But what about the other existing infrastructure weapons that need to be stored in specialised magazines in order to allow for safe operations?

Information on magazine space is also hard to find on the *Canberra class,* but again the Spanish are less restricted with basic statistics. The *Juan Carlos 1* has dedicated ammunition magazine spaces equalling 520 square metres, an equivalent space to a room that is 50 metres long and 10 metres wide. Assuming these areas are around three metres high which would be typical; that gives a total magazine space of 1560 cubic metres. A small diameter bomb takes up about .06 of a metre cubed and an AM9x bomb is even smaller at .05 and an AM120 just 0.14.

Although values for both missiles are without fins attached, larger weapons such as the joint air-to-surface standoff missile will consume around one cubic metre per weapon, even taking into account the containers in which these munitions are stored. *Canberra* can deploy thousands of weapons in its magazines. This truly is a very impressive magazine space which is unsurprising, considering the *Canberra class* is designed to support the high-intensity combat operations of a whole battle group for weeks.

So, what about other systems such as aircraft elevators the weapons handling system and fuel delivery system? Again, we must rely on the Spanish for information. The *Juan Carlos 1* has two aircraft elevators one forward and one at the rear of the vessel. Both elevators are rated at 27 tons and can accommodate the F-35B if the nose pokes out of the rear elevator. The flight deck is serviced by a dedicated ammunition hoist which is rated at two tons and has direct access to the magazine's spaces. Fuel lines are equipped on the flight deck in order to service aircraft and although these may need to be upgraded to higher capacity systems, extensive aircraft refuelling infrastructure is already in place. Much of the analysis done here relies on published information on the *Juan Carlos 1* rather than the *Canberra class* as the armada is less conservative with the release of basic information regarding its LHD.

As has been explained here, the *Juan Carlos 1* has substantial potential as a STOVL carrier. So the question immediately arises as to how different the two classes actually are? Clearly, there are some differences, but do these include large-scale internal design features such as fuel bunkers magazines elevators and internal spaces? Without access to the exact specifications of the *Canberra class* including details of its internal layout, it is impossible to be sure. Nonetheless, even with the uncertainty imposed by relying on open-source material, there is good reason to believe that at least in terms of fuel bunkers and magazines the internal differences between the two classes are minor.

Although there are some reports of an altered design within the superstructure, others including the Spanish website "Warships" apparently citing the manufacturer in Nevatia claim that the primary differences between the two classes are the sensors and combat system. Indeed, during the design phase large elements of the *Canberra class* which were completely superfluous to a primary amphibious mission (such as the ski jump) was maintained simply to avoid a costly redesign. Substantially, altering the ship's fuel bunkers, magazines ammunition handling system and elevators would require just such a redesign process as dramatically changing these features would have a substantial impact on the vessel's buoyancy and stability. Therefore, it is safe to assume that in terms of these fundamental elements required for STOVL operations as outlined here, the two classes are very similar. Thus, the *Canberra class* have the size, bunkerage, magazines, and hanger space to deploy, operate and maintain a squadron of F-35Bs at sea for an extended period, especially considering the F-35B is designed to be maintained in austere forward operating bases. Certainly, we should maintain that assumption until open-source information confirms otherwise.

Would the F-35B option diminish the current amphibious capability of the Canberra class? The argument that deploying the F-35B would diminish the *Canberra class's* amphibious capability is perhaps the most widely circulated amongst the Australian strategic community and if taken at face value, it makes some sense. After all the LHDs which both deploy large numbers of F-35Bs and amphibious forces such as the American *Wasp class* are far larger than the *Canberra class* displacing

USS Wasp on exercises in the Philippines in 2019 showing 8 F-35Bs and 4 V22 Ospreys on the flight deck

some 40000 tonnes adding F-35Bs their supporting personnel, weapons and fuel requirements would certainly displace the tanks, infantry helicopters and armoured fighting vehicles which constitute the amphibious force.

Therefore, the argument goes adding the expensive F-35B would only reduce *Canberra* and *Adelaide's* ability to fulfill their primary role providing an amphibious force for deployment within the region. However, even a cursory examination reveals this argument's substantial flaws there are two very obvious problems with this line of reasoning. The first is the simple fact that both *Canberra* and *Adelaide* currently spend a large amount of their time fulfilling other roles than full-blown amphibious warfare. In fact, the *Canberra class* vessels can far more routinely be found acting as task force flagships and helicopter carriers. Beginning in 2017 the ADF began deploying task groups throughout southeast asia designed to both demonstrate the ADF's advanced naval capability and build partnerships throughout the region. During these operations called indo-pacific endeavour along with several other warships either *Canberra* or *Adelaide* acted as the task force's flagship. These deployments are typically several months long during which time they are certainly unavailable for large-scale amphibious warfare.

As an example, during pacific endeavour 2018, only one platoon from 2RAR was deployed along with a comparable number of marines, hardly a whole amphibious ready group during these operations. The *Canberra class* are fulfilling the very same role as HMAS *Melbourne* did 30 years ago; a flagship and an impressive symbol of Australia's military capability. The *Canberra class* also uses anti-submarine warfare assets deploying a substantial number of 816 squadron MR60 Romeo Sea Hawk helicopters as demonstrated in exercises off the east coast of Australia in June 2020.

Humanitarian assistance is also another role routinely undertaken by the *Canberra class* including the deployment of *Adelaide* to Fiji after the devastating impact of tropical 'Cyclone Yasa'. As is evidenced by the way the ADF actually uses *Canberra* and *Adelaide*, these vessels are simply much more than amphibious warfare assets. They are task force flagships, helicopter carriers, anti-submarine warfare assets and humanitarian relief vessels, all in addition to their role as amphibious warfare ships. They are multi-role vessels and as is the case with all multi-role assets they can be configured for the task. This is demanded of them adding, the role of light carrier to that list would no more reduce their amphibious capability than using them to respond to natural disasters. If what you need is a carrier, configure them as a carrier and embark the F-35Bs.

However, if that need changes: for example governance breaks down in East Timor again, then simply embark the amphibious ready group instead. Apart from the reasonably minor internal changes, adding the capability to operate the F-35B would not dilute the *Canberra class's* amphibious role but it would give both *Canberra Class* ships and the ADF a much wider range of options to respond to a spectrum of very different possible scenarios. This is exactly how Spain uses the *Juan Carlos 1*.

The second major flaw in this general argument is the implicit assumption that when the ADF deploys its amphibious forces all of its amphibious ships are not only required but, their whole capacity is consumed by army equipment and personnel. But this is simply not the case the ADF has three different sized amphibious forces. The first is the amphibious ready element. This formation is composed of one combat team from

	Amphibious Ready Element (ARE)	Amphibious Ready Unit (ARU)	Amphibious Ready Group (ARG)
Command and Control	HQ ATG (CATF/CLF)		
Amphibious Shipping	An amphibious ship and landing craft	Two amphibious ships and landing craft	Three amphibious ships and landing craft
Joint Pre-Landing Force (JPLF)	1 x Joint Combat Team	1 x Joint Combat Team	2 x Joint Combat Teams
Landing Force Ground Combat Element (GCE)	1 x Combat Team	A Battle Group HQ and 2 x Combat Teams	A Battle Group HQ and 4 x Combat Teams
Landing Force Logistic Combat Element (LCE)	Vehicles, personnel, landing craft, Beach Team and C^2	Vehicles, personnel, landing craft, Beach Team and C^2	Vehicles, personnel, landing craft, Beach Team and C^2
Landing Force Air Combat Element (ACE)	Task Unit HQ MRH Troop	Task Group HQ Tiger Troop MRH Troop Chinook Troop	Task Group HQ Tiger Squadron MRH Squadron Chinook Troop +
Escorts/Strike Group **Elements may be commanded by, or may be supporting,**	Anti-submarine helicopters, Airborne Early Warning and Control aircraft Combat air patrols, Tankers Destroyers, Frigates, Submarines, Maritime Patrol Aircraft, Mine Hunters		

the ground combat element essentially a combined arms formation of company strength including cavalry, mortars and motorised infantry; a pre-landing force from 2RAR which is of a company strength formation, and a troop of MRH-90 Taipan multi-role helicopters. This formation is equivalent to an under-strength battalion and requires one amphibious ship. The next amphibious force is the amphibious ready unit (ARU). The ARU is composed of a battle group headquarters; a pre-landing force from 2RAR; two combat teams from the ground combat element; a tiger attack helicopter troop; a chinook troop and an MRH troop.

This formation is equivalent to a battalion battle group and requires two amphibious ships. Only the largest formation the amphibious ready group which is equivalent to an understrength brigade requires all three of the RAN's amphibious vessels *Canberra, Adelaide* and the *Bay class* Landing Ship Dock, *Choules*. This formation is composed of a battle-group HQ two pre-landing force elements from 2RAR, four combat teams from the ground combat element, a Tiger ARH squadron, MRH squadron and chinook troop. The lesson we can take from this amphibious force structure is that only at the very highest levels of forced deployment are all three ships utilised which certainly leaves room for the use of one LHD in other roles.

For example, there may be situations where the air threat is substantial and only having fighters organic to the Task Force would permit the operation, but also do not require the deployment of the full amphibious ready group. In such a contingency one LHD could be configured to support fixed-wing aviation deploying a squadron of F-35Bs whilst the other two vessels contain the amphibious ready unit which is still a substantial amphibious force on the order of a battle group. This flexibility would be even greater if *Choules* was replaced with a third LHD.

Obviously if what is required is the whole amphibious ready group and there is no room for F-35B deployment, then there is no requirement to embark them once a rough forward operating base has been established. They can deploy from the Australian mainland in such an arrangement and the total amphibious capacity which has been lost is zero. Multi-role platforms are after all multi-role and configuring them for one task does not mean they cannot be configured for another. The argument that the potential air group deployed by the *Canberra class* is too small to be of any real value has been circulated widely amongst the Australian strategic community. Indeed, this was one of ASPI's main conclusions, and is an argument that has been made in several other places.

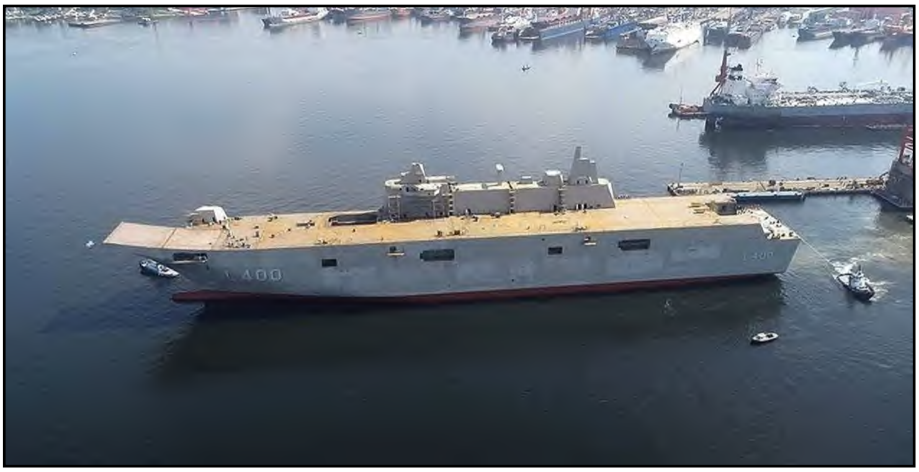
However, if we look in very general terms at the utilisation of squadron size STOVL deployments on warships, it seems as though many naval powers would disgree. The most obvious user of the small STOVL carrier was the United Kingdom with the Invincible class carriers and the Harrier.

The famous role of these pocket carriers during the Falklands campaign and the legendary exploits of the Sea Harrier illustrates just how useful a squadron level deployment of STOVL aircraft can be in high-end warfighting scenarios. In fact, given the air threat the Royal Navy faced in the Falklands it is safe to say that without the deployment of her two STOVL carriers the operation would not have been possible, because these fighters were based with the task force allowing for high sortie rates.

Just 28 Sea Harriers (about two squadrons) were able to effectively counter an air threat well over five times their size. These small carriers each of which deployed a single squadron of Harriers were also utilised to great effect during the bombing of Serbia in 1999 and operations during the 2003 invasion of Iraq. So, the historical record seems to indicate that even with the Harrier, which is far less capable than the F-35B, the force was highly capable. These squadron level STOVL carriers have been very useful even against high-end air threats. If we look at this generation of warships and aircraft it also appears that many nations including those in Australia's region disagree with ASPI's conclusion.

Spain currently operates around a squadron of AV-8B Harriers from *Juan Carlos 1* and is looking to replace those with the F-35B. The Italian Navy has a comparable capability with the 30000 ton *Cavour* in addition to the soon to be replaced 13000 ton *Garibaldi* both of which deploy a squadron of Harriers. Much like the Spanish the Italians plan to replace the Harrier with the F-35B. Turkey is currently constructing a derivative of the *Juan Carlos 1*, a close cousin of the *Canberra class* and intends to procure STOVL fighters. Finally, the two ship *Izumo-class* helicopter destroyers of the Japanese Navy are currently being converted into STOVL capable warships and reportedly they will be capable of deploying an air group of around 12 F-35Bs.

Italian Navy's 13000 ton Garibaldi with 4 AV-8s on the FD soon to be operating F-35Bs



Turkish LHD L400 'Anadolu' designed on the Spanish Juan Carlos class for an amphibious role and to run F-35Bs

So even without delving into the specifics, it seems that many nations around the world, with comparable naval power to Australia think that an air group composed of a squadron of F-35Bs is definitely worth investing in. In fact, once we delve into the specifics this general point looks even weaker. The primary argument against these kinds of minor carriers is they cannot cope with the very highest levels of air threat. This is a form of false dichotomy which is prevalent in this debate.

If the ADF was to sail a task force 300 nautical miles off Hainan Island and begin striking Chinese airbases it would quickly get overwhelmed. But there are many other situations where organic air cover at the level of a squadron would not only be important but, a key capability. To understand why we need to look at how long-range maritime strike aircraft like the H6 bomber of the PLAAF sink ships.

The Italian Navy's 30000 ton Cavour test flying the F-35B, the replacement aircraft for the AV-8 Harrier previously embarked

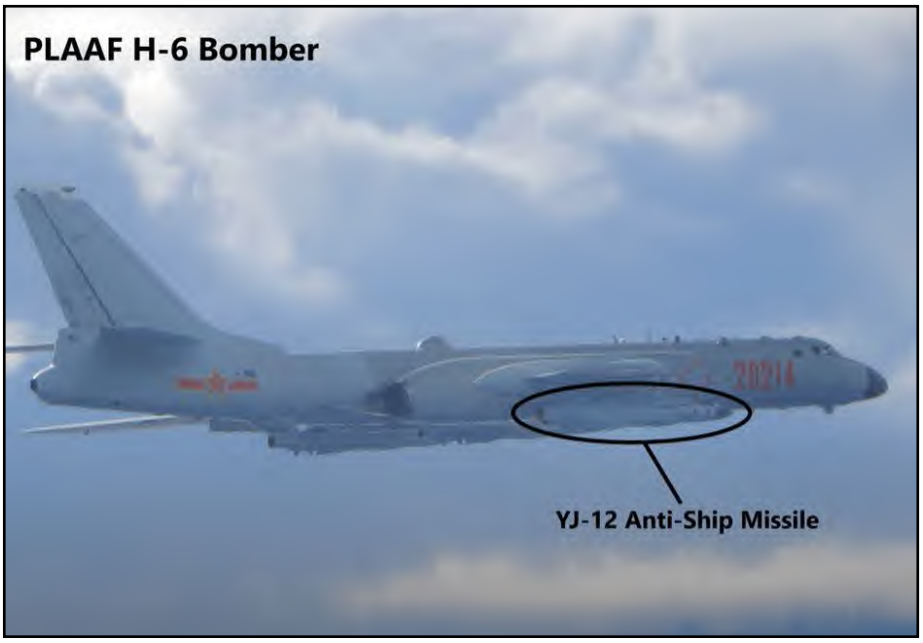
The primary weapon used by maritime strike aircraft is the anti-ship cruise missile. Most effective anti-ship missiles such as the supersonic YJ-12 have a range of between 100 and 500 nautical miles. This is generally the practical limit imposed by area of uncertainty limitations. These weapons are typically launched from the safety of the radar horizon where the ship's defensive radar systems cannot see either the aircraft or the missiles. However, because ships move at up to 30 knots, some platform needs to maintain a track on the target, so the missiles have accurate targeting information.

Typically, this cannot be provided by satellites. The most common way of providing targeting data to strike aircraft is either by a Maritime Patrol Aircraft (MPA) or a long-range unmanned aerial vehicle. These aircraft will typically loiter outside the ship's defensive missile range and use its own long-range sensors to provide the required track. What this means for a task group without organic fighter cover is an MPA can simply lurk outside the ship's missile defences making the task force vulnerable to missile shots it can do nothing to prevent.

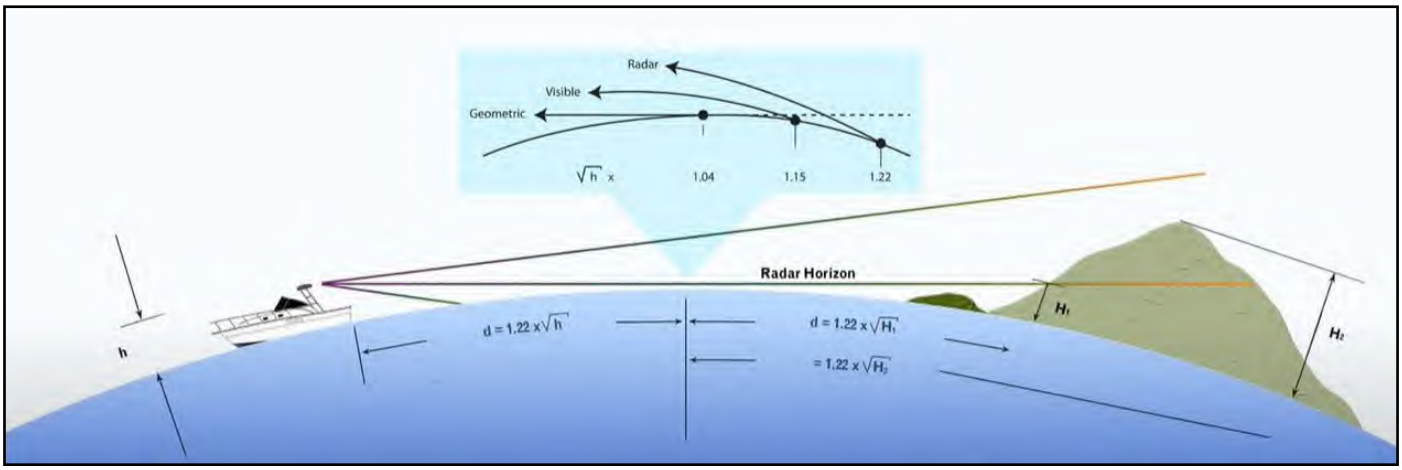
Even if the *Hobart and Anzac classes* defensive systems can shoot down the incoming missiles their magazine capacity is not large and this alone would likely compel the task force to withdraw. Whether it suffered damage or not, the tactic of gaining a mission kill by depleting defensive missile magazines is termed winning the salvo exchange. In these situations, land-based aircraft always have the advantage so, as we can see even in the area of moderate air threat out to 1500 nautical miles from Chinese bases the ADF would not be able to operate its surface forces independently.

Japan's Izumo Class Helicopter Destroyer DDH-184 JS Kaga being equipped to operate an air group of around 12 F-35Bs

This remains true even in a general regional conflict where the threat would be diluted over a wide area. However, even with a minimal amount of sustained fighter cover, this kill chain is immediately broken. No longer can maritime patrol aircraft shadow the task force and without that persistent tracking information, the attack aircraft have to use their own radars from a very long range and at higher altitudes. This makes them far more vulnerable to long-range surface-to-air missile systems such as the SM-6 which has a range of 130 nautical miles. The other major advantage of organic fighter cover is the strike aircraft can no longer stand off and launch their weapons from a safe distance. The F-35 has an air-to-air combat radius of some 500 nautical miles, allowing for the interception of incoming strike aircraft well beyond their practical launch range. Even in very small numbers, the F-35B poses a deadly threat to long-range maritime strike aircraft such as the subsonic H6 equipped with the 100 plus nautical mile ranged AN-260 joint advanced tactical missile.



The F-35 will be able to break up incoming strike packages well beyond the radar horizon, before they are able to launch their missiles. Because the H6 is so vulnerable at the very first hint of fighter activity they would have no choice but to jettison their missiles and become evasive effectively achieving a mission kill. Therefore, even a very small number of defensive fighters perhaps as few as a four-ship flight could have a disproportionate impact countering even a multi-squadron attack. But there's more to the story. The F-35B is not the same as an ordinary fighter. What makes the F-35 so special isn't the fact that it's a supersonic stealth fighter, but its revolutionary sensor package. The aircraft con-

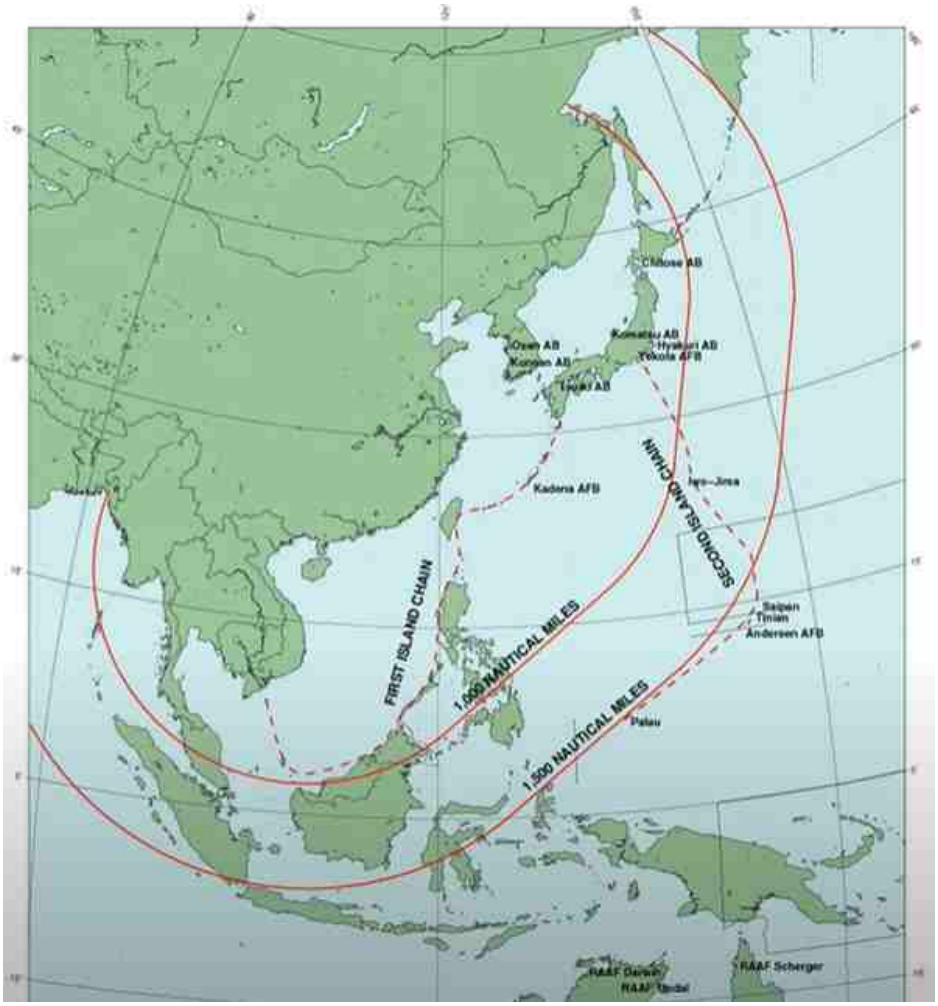


very long range as these weapons have extremely large signatures.

But, in addition to the surveillance capability, a single unarmed F-35B can effectively allow the *Hobart class* destroyer's missiles to reach over the radar horizon. This technique is called naval integrated fire control counter-air. The way it works is the F-35B uses its very powerful sensors to gain a track on targets the warship cannot see which it then transmits via data link. Onboard the destroyer, the Aegis Combat System calculates a

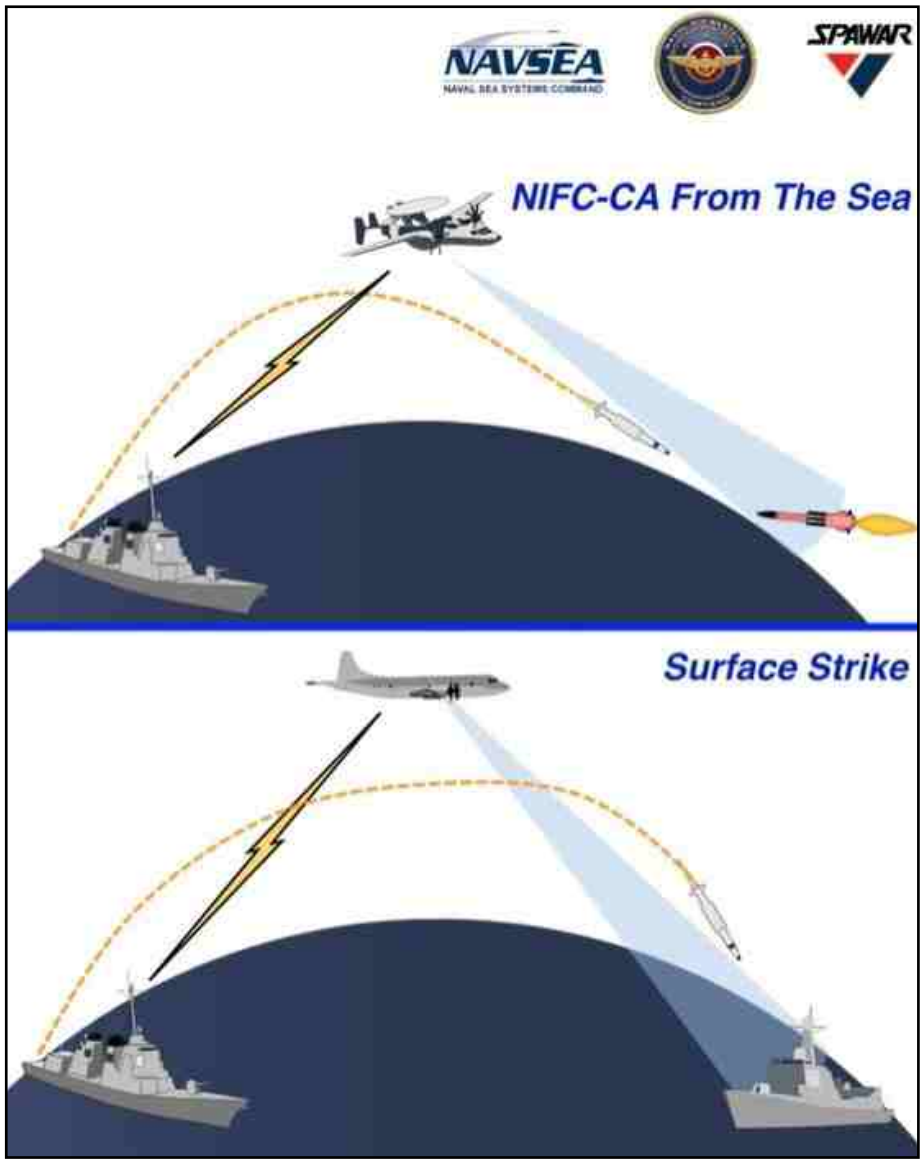
tains a comparable radar to the previous generation AWAC aircraft; a comparable electronic intelligence capability to dedicated systems; and has the most capable infrared system ever placed on a fighter. What these capabilities mean in practical terms are you don't have to use the F-35B as a fighter; you can use it as an AWACs platform by having a single F-35B orbiting at 30000 ft even if it was unarmed.

The task force commander would have a much-improved picture of the battle space. The ASQ-239 barracuda electronic warfare system could detect radar emissions from hundreds of miles away and the powerful AN APG-81 radar would extend the group's radar horizon by a factor of 10, providing early warning on incoming threats including cruise missiles the distributed aperture system provides - 360 degrees of continuous infrared coverage and would rapidly detect the emissions of sea-skimming anti-ship missiles at a



firing solution and then launches the SM-6 surface-to-air missile. The SM-6 is equipped with the active radar seeker from an AM-RAAM (Advanced Medium-Range Air-to-Air Missile) and has a range of 130 nautical miles allowing the missile to reach targets well beyond the radar horizon, 10 times farther for sea-skimming targets.

Therefore, even having a single F-35B airborne above the task force would vastly increase the air defence capability of its defending warships such as the *Hobart class* destroyer, giving them an over-the-horizon engagement capability. The synergistic benefits of even having unarmed F-35Bs deployed with the task force are massive. What use would this capability be to Australia in practical terms after the substantial deployments to East Timor in 1999, an operation which showed the inadequacy of Australia's amphibious forces? It became clear to Canberra that no other major naval power had sufficient interest in Oceania to intervene in this area of instability. Additionally, the rise of global terrorism had shown the dangers of allowing governance to fail in developing nations. Failed states were a risk to everyone in the region.



(YouTuber 'Hypohystericalhistory' is an academic historian with a research interest in military history. He has two masters degrees in history and currently a PhD candidate. He specialises in ancient history, although he has a research interest in contemporary warfare. You can find his work in places like Security Challenges, the peer reviewed Australian strategic journal. He has never worked in the defence industry or in the ADF.

I only wish I could find out more about him and his real name to give him credit for a well researched video. I managed to transform his video into text for this article.

It's apparent that his primary interest is not who operates the F-35B but the reasons it should be reconsidered for the Australian LHDs.

Maybe a joint system that operates within the RN/RAF where both services operate the F-35B as a joint squadron?. . . . . .Ed)

An F-35B used in AWACs and naval integrated fire control counter-air roles

Next Issue: Part 2

Letters to the Editor

Response to Straight Deck Landings

Congratulations on another very interesting *Slipstream*.

However Norm Lee's Art of Deck Landing (*Slipstream* Sep 2021 issue pp 6-8) contained a couple of errors. Also, although Norm was then still in the Number 2 Course pipeline, a full RAN straight deck story really included the very interesting December 1950-February 1951 period when the RAN's 20th CAG (805 and 816 squadrons) converted from the old Royal Navy Deck Landing Control Officer (DLCO) signals system, to that of the USN Landing Signals Officer (LSO). This happened just after the RAN Number One Course pilots first joined their front line squadrons.

Also two errors, on pages 6 and 8, include a false "Fast" LSO signal and both HMAS *Sydney* and HMAS *Vengeance* carried three, not just two, safety barriers each.

The conversion from wartime RN to USN deck landing signals systems started, squadron by squadron, Air Group by Air Group, in the UK around 1949. This conversion may be said to have continued until the RN Deck Landing Control Officers School in HMS *Stretton* changed its name to the Landing Signals Officers School in January, 1953.

Our 20th CAG pilots did not start their conversions to the new LSO system until the work up for the February – April 1951 Summer Cruise. Only seven newbie pilots (Number One Course - three Firefly and four Sea Fury pilots) had LSO-system qualifications. The Old's and Bold's conversions from the DLCO signals system were not without incident and the conversion process might have contributed to our first fatal deck landing accident.

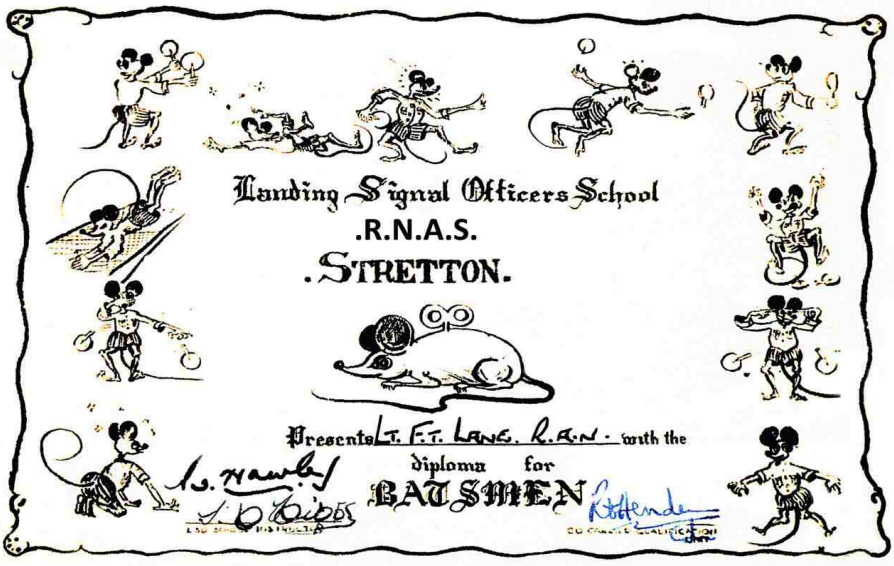
Both DLCO and LSO systems required lightning-fast reflexive signals responses. "If you have to think, you are dead." These reflexes were ingrained during 90 or more Aerodrome Dummy Deck Landings (ADDLS) ashore and follow-up Deck Landing Practice (DLP) aboard a carrier.

Unfortunately, the RN signals were "mandatory" and the USN's were "advisory" in that the same-looking "High/Low" signals meant directly opposites. Both bats raised just above the batsman's head indicated "you are Low, Go Higher" in DLCO language, but "you are High, Go Lower" in the new LSO system. The opposite-looking "Low" signal meant just the opposite. A similar contradiction was found with the High Dip/Low Dip and Increase/Decrease Turn Rate signals.

In the old system the batsman brought the pilot down almost to touchdown before the "Cut". In the new system, as Norm correctly stated, the Cut was given anywhere in a "box", depending on actual height and airspeed, so that the pilot cut the engine, let the nose drop, made minor last-second line up corrections and flared to land firmly, but not too hard.

As confirmed by Pavlov's dogs and Skinner's pigeons, intermittently rewarded ingrained reflexes are the hardest of all to modify. When landing aboard a carrier, there is no time to ponder or miss-read a signal. We saw a number of deck landing accidents, especially among the "Old and Bold" who were quick to blame "faulty batsman". It was not easy to change systems. Some of the newbies had one or two minor scrapes, but generally we were quite happy with the LSOs.

Regarding errors, the "Fast" signal in the diagram (page 8) and discussion (page 6) are wrong. As may be seen in the accompanying image, it is the right hand, not the left, that is dropped to indicate a "Too Fast" signal.



The first graduates of the re-named Landing Signals Officers School, HMS Stretton, were awarded this diploma, 28 February 1953.

Letters to the Editor

LSO aboard USS Intrepid. Contrary to the discussion (p.6) and image (p.8) in the September 2021 Slipstream, this LSO image shows the correct (right hand down) Fast signal.

Both HMAS *Sydney* and HMAS *Vengeance* had three barriers, not two (page 8), with “any two” up deemed Safe to Land. The drill was Barriers 1 and 2 up and 3 down normally for landing. then all down after a safe aircraft’s hook/wire engagement. As the aircraft hurried forwards, the aftermost barrier, number 3, would be raised then dropped again when both Barriers 2 and 1 were raised as the taxying aircraft cleared them in turn. This sequence allowed regular landing intervals of 25 to 30 seconds and a ready use spare barrier in the event of barrier engagement damage. When up, it was possible to catch the number 3 Barrier from a late wire, but a good barrier operator had a split second chance to drop the barrier before contact.

Fred Lane

Coronavirus Isolation?

I'm glad you asked! My wife (Gloria) and I are coping very well - thank you. Gloria has her "hobby" of genealogy and me? Well, I've plenty to do; there's gardening, reading, puzzles, and now and then I play with my model trains.

When I'm not doing any of the above, I can sit and contemplate my "navel" and one is surprised at the results of some of my contemplations??? The most surprising being I didn't realise at the time how much the Navy was doing to prepare me for this predicament of isolation

O.K., I shall now explain how my Navy training benefited my situation of seclusion.

Sometime towards the end of I955, I overstayed my leave by some nine (9) weeks or so? At the time, I was working on a property at Merah North (NW in NSW) when the police made a visit, with a request that I couldn't refuse. I accompanied them back to Narrabri where I was accommodated for five days! (Note: the sergeant’s wife was paid to supply meals to the guests). I was given my own private suite which turned out to be a room of 10ft. by 8ft.with a small window some 6ft.off the floor. Bed Linen consisted of three or four blankets. That's all! I have to say that this experience of viewing the world through "iron bars" was not for me. I often reflect that this was a "light bulb" moment in my life and perhaps the best thing that ever happened to me.

I had five days there, until a policeman was available to provide escort back to Sydney (at my expense). Some more days of isolation were spent at HMAS *Penguin* before returning to HMAS *Albatross* under "close arrest" where more isolation occurred. Eventually the wheels of navy discipline started turning! The "Josh" believed because of my previous good behaviour I was looking at a twenty-one (21) days suspended sentence. So, at the Captain’s Table it was ‘off caps’ and on reading his decision the Captain obviously missed the bit about suspended!!

So, it was back to more remoteness until transport was arranged to convey me to be a guest of the Military Correctional Establishment, Holsworthy for twenty-one (21) days of isolation. I was also selected for some more isolation practice whilst onboard HMAS *Sydney.* This time it was for not doing as I was told, even though there is a lot more to this! The Captain more or less apologised to me, but Q R & I’s overruled. It appeared he had taking the word of the senior rating? The result this time was fourteen (14) days "cells" so more isolation. This was to be my last misdemeanour in the Navy and then went on to obtain my good conduct badge!

I figure all up I've had some fifty days plus at training for self-isolation. Who would ever have thought the Navy could be so attuned to future events which would see us having to practice self-isolation? So, thanks to my Navy training I'm finding the practice of isolation a "breeze".

Love you all, please take care.

Claude (Mick) Tattersell
(Aircraft Handler I954/60)

RN TAGs Train to be RAN Observers

Ex-RN Telegraphist Air Gunners training as Observers for the RAN at HMS Vulture, Cornwall UK—I949. L—R rear: Malcolm 'Nobby' Clarke, Gordon 'Taff' Hughes, Gwyn 'Taff' Morris, James 'Knocker' White, Philip 'Hank' Hancox, Leonard 'Ken' Kenderdine (TAGs—in 'round rig', only named).

Memoires and Records of the late Len Kenderdine, the late Gwynfryn 'Taff' Morris and the late Gordon 'Taff' Hughes

Following the formation of the RAN Fleet Air Arm after WWII, a number of ex-RN Telegraphist Air Gunners (TAGs) elected to join the newly formed FAA and train as Observers. The former junior rating ex-RN TAGs joined the RAN initially for six years as Naval Airman (TAGs). Within weeks all were promoted to Acting Leading Aircrewman (II). The ex-RN TAGs commenced training at the Naval Air Signals School (NASS) on 31 January 1949 to undergo radio refresher training. This is where RN TAGs had been trained previously during WWII and beyond. The NASS was located just behind the RN Air Station (RNAS) HMS *Daedalus* at Lee-on-the-Solent a few kilometres from Portsmouth. Flying also commenced in Avro Ansons from HMS *Daedalus* when no ground instruction was undertaken.

In May 1949 the ex-RN TAGs proceeded to RNAS St Merryn (HMS *Vulture*) to learn all about navigation flying in Firefly 1s. Sorties normally lasted about two hours involving challenging navigation and wind finding exercises to various RNAS throughout the UK.

In August 1949 the ex-RN TAGs joined 815 Squadron at Eglinton, Northern Ireland, to continue

Naval Air Signals School, Seafield

training in the anti-submarine role. The squadron, flying Barracudas, was the only anti-submarine unit then available for the British Home Fleet. For eight months the course flew like mad to ensure that most benefits could be gained from this latter training. Flying was not just over the sea but land as well. As the late Len Kenderdine said: "We saw plenty of green fields and rolling hills and came across the quaint Irish people and their dialect. It was good to be able to go across the border and buy ham and eggs, things that you just didn't see in England even this long after the war".

In April 1950 the ex-RN TAGs were back at RNAS St Merryn (HMS *Vulture*) to form the 21st CAG with 817 Sqn Firefly and 808 with Sea Fury. The Sqn worked up with RN Firefly IVs with new crews.

Sub-Lieutenant MacMillan and OBS 1 (CPO) Hancox (with the Owen sub-machine gun) dash for the rescue helicopter after being shot down in their Firefly over North Korea (Painting by David Marshall hanging in the ANAM)

As the late Len Kenderdine explained a tragic event: "I mostly flew with LEUT 'Tug' Wilson, totalling a little over 50 hours in May and June.

On 10 July we were in Firefly VT395, carrying out 50° dives on Treligga Range when I became aware of a burning smell, checked my cockpit and informed 'Tug' who stated we had coolant problems and headed for base. We landed wheels up in a field some three-quarters of a mile from the airfield, went through a fence and hedge and at the end of the field we hit the end of a mound of earth. I was knocked out by the crash and awoke to find the aircraft on fire with the rear section almost upside down. I managed to get out but was unable to open the pilot's cockpit due to the flames. However, 'Tug' had been killed on impact. A sad start to the squadron. I spent 16 days in hospital before returning to flying on 27th July with a session of forced landings!! We joined HMAS Sydney in September, again using RN Fireflies, for further training before loading up with cocooned Fireflies and Sea Furies in late October and commencing the journey to Australia, arriving in Jervis Bay on 6 December.

Ex-RN TAGs who became RAN Observers. From left: Phillip 'Hank' Hancox, Gordon 'Taff' Hughes, Malcolm 'Nobby' Clarke, Harold 'Bill' Bailey, Len 'KD' Kenderdine and Gwynfryn 'Taff' Morris circa 1990's at the RAN Museum Nowra

In September 1950 those ex-RN TAGs had completed adequate training to be reclassified Observer IIs (Petty Officer) or Observer I (Chief Petty Officer) and awarded Observer 'wings'.

Observer IIs and Is did extremely well alongside other aircrew in their service in Korea with one, 'Taff' Hughes receiving the DSM, the only Observer to receive a decoration in that conflict. Another, 'Hank' Hancox, was involved in a dramatic rescue that can be read in *Slipstream*

Observer 1 'Taff' Morris and pilot Col Champ standing beside their Firefly, which is primed for a strike with 500 lb bombs and 20mm cannon on the flight deck HMAS Sydney during the Korean War. 'Taff's' revolver is noticeable in his holster on his right hip. The Observer also carried an Owen Sub-Machine gun in the event of being shot down (RAN image)

September 2019 here (online subscribers only).

Observer II and Is continued to serve beyond their six year initial engagement in the next generation of anti-submarine aircraft the Fairey Gannet.

It was common for these Observers to rotate between the front and second line Gannet Squadrons, as well as an operation billets in both HMAS *Melbourne* and HMAS *Albatross.* Training positions at HMAS *Albatross* were also part of the rotation.

By the mid 1960s those Observer Is & IIs who remained in the RAN were considered for commissioned rank. In those days, it meant that an SD aircrew electing for a commission was denied continuation of flying duties.

Observer 1's were subsequently commissioned and transferred to, primarily to Air Traffic Control. One, 'Taff' Hughes, is known to have transferred to be a Photographic Officer.

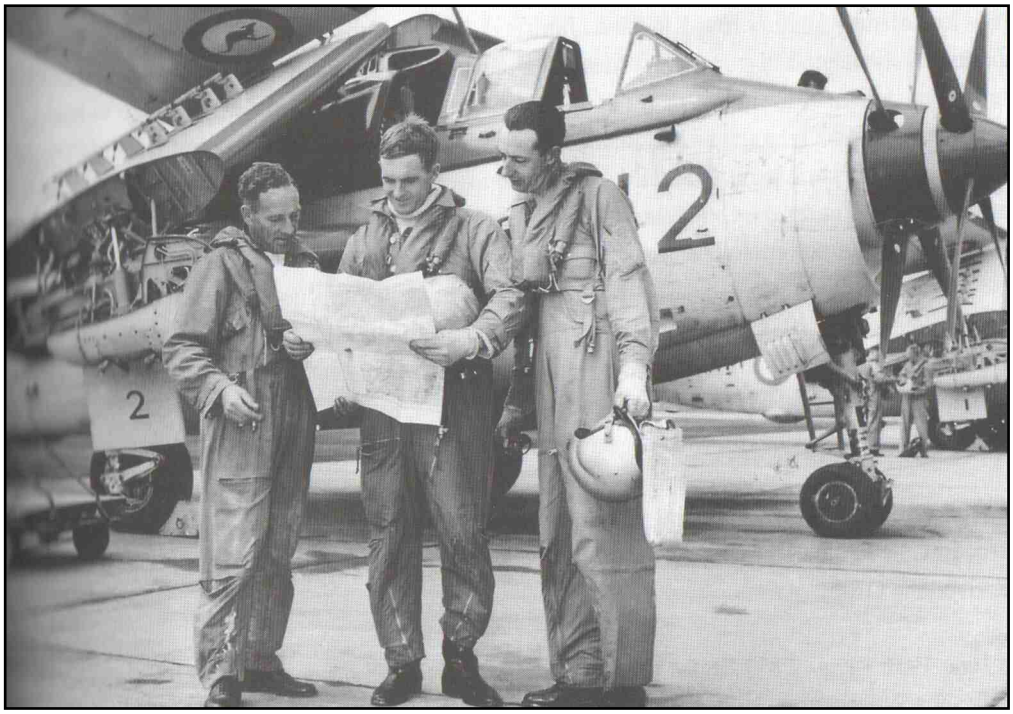
For the others following training in ATC, these ex-OBS settled into yet another busy environment of Naval Aviation, but quickly adapted to the changing workload.

After 12 months in the specialisation, these 'new' ATC officers were sent to RAAF East Sale to undergo Ground Controlled Precision Approach Radar training where the controller would 'talk' a pilot through IMC (Instrument Meteorological Conditions – bad weather) to a safe landing.

All passed with 'flying colours' and were posted back to either NAS Nowra or CAG headquarters, the latter for operating the Precision Approach Radar on HMAS *Melbourne.*

All of those that nominated for ATC excelled in that specialisation and were an inspiration to younger controllers.

'Taff' Hughes was an Observer II (PO) in 817 Squadron flying in Firefly aircraft during the Korean campaign (Oct 1951 to Jan 1952). He was commissioned in August 1965 as SBLT Special Duties Executive Aviation-Photography at the same time as the other ex-OBS. Taff's commissioned service was in *Melbourne* as Hangar Control Officer and Phot Officer, and at *Albatross* as Phot



Observer 1 'Taff' Morris, LEUT (P) H. T. Small and Observer 1 Len Kenderdine. Taff and Len were known to take it in turns in the two back seats when they flew together. Photo courtesy Len Kenderdine's son

'Taff' Hughes DSM

Officer. He retired from the RAN early 1980.

One who remained a senior sailor until leaving the RAN in 1968 was 'Bill' Bailey who had transferred to the Aircraft Handler branch after becoming medically unfit for aircrew in 1952.

(I worked alongside three in ATC; 'Hank' Hancox, 'Taff' Morris and Len Kenderdine. 'Taff' reached LCDR and was SATCO for a period whilst 'Hank' and Len both rose to the rank of LEUT. 'Taff' Hughes ended up a LEUT as a 'Photographic Officer'.

It was while sitting around on a quiet day in ATC in the mid 70's just chatting when Len reading a letter suddenly said: "That B@$^*&d". He was referring to the USN CPO Pilot, a friend, who flew the rescue helicopter on that mission to rescue 'Hank' Hancox in Korea. You see he'd loaned the guy his Owen Sub-Machine Gun, but his mate said he'd lost it in action, only to be told 20 years later that he'd kept it as a souvenir. . . . . .Ed).

Obituaries for

Harold 'Bill' Bailey ***here*** *(URL https://www.faaaa.asn.au/obituaries/bailey-bill/*

Gordon 'Taff' Hughes ***here*** *(URL https://www.faaaa.asn.au/obituaries/hughes-leut-gordon-taffy-dsm/*

Len Kenderdine ***here*** *(URL https://www.faaaa.asn.au/obituaries/kenderdine-leonard-ken/*

Gwynfryn 'Taff' Morris ***here*** *(URL https://www.faaaa.asn.au/obituaries/morris-gwynfryn-taff-lcdr/)*

Obituary — LEUT John Champion RAN (Retired)

It is my very sad duty to report the passing of John Champion on 1 November 2021 in Albury. John is survived by three of his children Antonia, Pauline and Alan. He recently moved to an Aged Care Home in Albury to be closer to family.

John was a Life Member of the Fleet Air Arm Association and long term committeeman. He was 91.

John Champion
RAN pilot

He joined the RAN in January 1953 and first undertook pilot grading at RAAF Archerfield on 9 March 1953. It was then on the 17 July 1953 John joined No.5 Basic Flying Training School at RAAF Uranquinty before moving to RAAF Point Cook on 20 Nov 1953 for advanced flying. He was awarded his 'wings' on 12 May 1954 with promotion to ASLT on the same date.

Initial posting was to 723 Sqn on Fireflys. Later that year he was loaned to the RN for service and further training. He returned to Australia in October 1955 and was posted to 851 Sqn (Fireflys). 851 Sqn embarked in HMAS *Sydney* for two weeks in March 1956 travelling to Brisbane in spite of the ship now being allotted to a training role. John was promoted to LEUT on 12 May 1956. After completing a Gannet conversion at 724 Sqn he then joined 816 Sqn on 14 October 1956. For the remainder of his naval career John rotated between front and second line Sqns before resigning on 8 April 1961.

His service in the RAN included HMAS *Moreton* (for RAAF Archerfield), *Penguin* (for RAAF Uranquinty), *Lonsdale* (for RAAF Point Cook), *Cerberus, Albatross, Sydney, Melbourne* and several RN Naval Air Stations in the UK. At various times he was attached to 723, 724, 725, 816 and 851 Sqns.

After his Navy service John moved to the UK where he joined the RAF and flew Avro Shackleton long-range maritime patrol aircraft for eight (8) years.

On his return to Australia in 1971, John joined the RAAF on a four year short service commission commencing with No.49 Air Traffic Control Course at Central Flying School 'C' Flight RAAF East Sale. He then served the remainder of the four years in ATC.

On conclusion of the RAAF service, John went back to his love of flying, this time in a civil capacity.

John Champion
RAF pilot, RAAF ATC

Mal Smith,
Secretary
Victoria Division

Outstanding WWII RN FAA Pilot Destroys 7 Locomotives in One Raid

Johnny Myerscough serving aboard the escort carrier HMS Ameer with the British East Indies Fleet in 1945. Photo courtesy: Imperial War Museum; www.iwm.org.uk

First Published in UK 'Telegraph Obituaries' 22 July 2021 and provided by John DaCosta

Lieutenant Johnny Myerscough, a pilot with the RN Fleet Air Arm was 'one of the most outstanding pilots' in wartime.

Johnny Myerscough, who died aged 100, barely left Lancashire except to fly for the Fleet Air Arm in the World War II, when he won a DSC for gallantry, skill and inspired leadership.

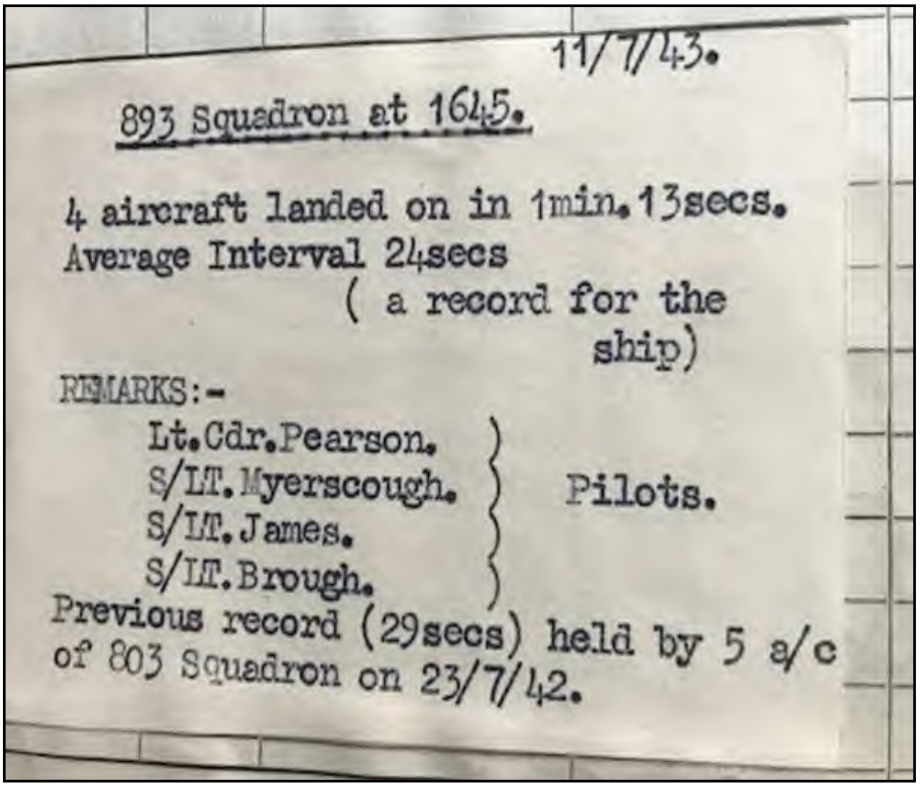
In January 1945, Myerscough joined 803 Naval Air Squadron (NAS), and after a spell in the naval fighter pool at Puttalam, Ceylon, embarked in the escort carrier HMS *Empress* for Operation Stacey, codename for a naval photographic reconnaissance of Penang, the Kra Isthmus and Northern Sumatra during February and March, for which he earned his DSC.

On 20 June, while flying from the escort carrier HMS *Ameer*, 804 NAS (in the same air wing) carried out 84 bombing and strafing attacks which were "most encouraging … both in execution and results". Myerscough personally was credited with destroying seven locomotives.

At war's end, his commanding officer described him as "one of the most outstanding pilots in the Navy, who has shown exceptional flying ability and great wisdom as a leader. He has been a great inspiration to 804 Squadron."

John Myerscough was born on 28 August 1920 at Cottam in Lancashire, leaving Preston Catholic College at 16 to become a junior clerk at Preston Savings Bank. He volunteered for the Fleet Air Arm in 1940; rejected because he did not have an engineer-

Johnny Myerscough with his medals



11/7/43.

893 Squadron at 1645.

4 aircraft landed on in 1min.13secs.
Average Interval 24secs
(a record for the ship)

REMARKS:-
Lt.Cdr.Pearson.
S/Lt.Myerscough. } Pilots.
S/Lt.James.
S/Lt.Brough.

Previous record (29secs) held by 5 a/c of 803 Squadron on 23/7/42.

On 11 July 11 1943 he was second in a flight of four aircraft of 893 NAS which set a record by landing on Formidable in 1 min 13 sec. 'Pretty work by that section of aircraft,' said the watching admiral

ing qualification, he studied in his own time before "blagging my way" through the recruitment process.

In June 1941 he was sent for flying training to Florida, where on 27 January 1942 he was awarded his wings. He made his first deck landings in a Grumman Martlet fighter on the carrier HMS *Furious* on 1 October of that year, and was rated "above average".

Later in the month 893 Squadron sailed in the carrier HMS *Formidable* for service in the Mediterranean, where on 17 November Myerscough flew one of two Martlets which strafed the German U-331. It was then torpedoed by Albacore torpedo-bombers of 820 NAS. Myerscough was hit and forced to ditch, but was picked up by the destroyer HMS *Quentin.*

On July 11 1943 he was second in a flight of four aircraft of 893 NAS which set a record by landing on *Formidable* in 1 min 13 sec. The feat elicited a signal from the watching admiral: "Pretty work by that section of aircraft." (The previous record had been held by five aircraft of 803 NAS five aircraft at 29 second intervals.) Subsequently Myerscough flew throughout the Allied landings in North Africa, Sicily and at Salerno, and was briefly based in Gibraltar.

The squadron also escorted an Arctic convoy to Russia in late 1943, and in August 1944 Myerscough joined 845 NAS in the Indian Ocean, flying the Grumman Hellcat fighter on regular low-level bombing and reconnaissance sorties.

Between 1941 and 1945 Myerscough flew 905 hours in 22 types of aircraft and made more than 200 deck landings, but after this wartime excitement he returned to his civilian career, and for 45 years was manager of what eventually became the TSB in Preston.

The Russian government awarded Myerscough a campaign medal, and reportedly when President Putin discovered that the medal was not of sufficient quality, a replacement was brought to Myerscough's home in 2016 by an official of the Russian embassy in London.

Johnny Myerscough was a gentleman: industrious, brave, disciplined, polite, honest, reliable, meticulous, loyal, artistic, but often able to demonstrate a wicked sense of humour. He also enjoyed playing golf and watching football. He married Doreen Knowles in 1948, and latterly nursed her for 20 years until she predeceased him in 2008. He is survived by his two daughters.

He celebrated his centenary during lockdown, the residents and staff of his care home in Lytham St Annes becoming his family for the day.

John Myerscough, born 28 August 1920, died 30 March 2021.

100th Birthday!!

The Beginnings of Coastwatch

By Steve Chaplin
Ex-CPOWM

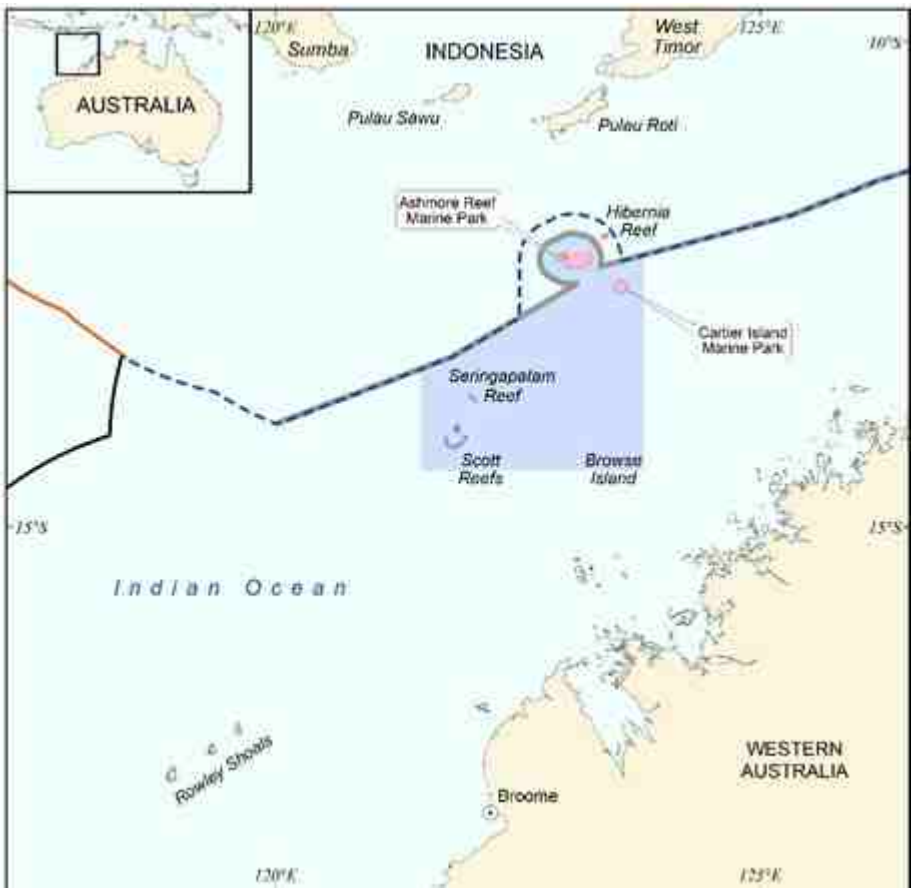
Squadron personnel in front of a loan hanger with a loan S2 Tracker at 'RANAS Broome'

Australia as an Island Continent, has an extensive coastline, not only to patrol, but to also protect and as a result of a number of events occurring in the Northern waters, Maritime surveillance for civilian purposes began in 1968 to protect the new 12 nautical mile fishing zone that had been declared in 1967.

The first surveillance was undertaken using RAAF P3 Orion aircraft. Approximately 150 hours of surveillance were flown each year. Obviously, insufficient patrol time on task, given distances and locations. The RAN assisted with surveillance and response using patrol boats.

During the early 1970s, the activities of foreign fishing vessels in Australia increased, with 431 sightings in 1974. The most serious threat was traditional Indonesian fishing boats landing in the Kimberley with attendant quarantine risks. Surveillance was increased to 800 flying hours and patrol boat operations extended.

Some of the more "sensitive" regions in which these incursions occurred was Ashmore Reef, Rowley Shoals and of course the infamous Montebello Islands. The Indonesians were stripping out the Trochus shell and of course, Shark Fin. Along with this, the Taiwanese fishermen were operating well within Australia's Declared Fishing Zone (ADFZ) operating long-liners with the stripping out of areas of 100nm blocks of the Western sections of the Kimberley and Pilbara coastline.



The coastal reconnaissance operated in a difficult and demanding environment with the responsibilities including the provision of surveillance and response services for approximately 37,000 kilometres of coastline and a nine million square kilometre offshore maritime area.

Also thrown into the mix were elements from the RAN, operating the Grumman S2E Trackers and they commenced fisheries protection patrols from 1975, an operation codenamed "Operation Trochus".

The task began on 6 March 1975, when three Grumman S2E Trackers from 851 Squadron began what was intended as a twelve-month operation from Broome in Western Australia. The operations continued with 816 Squadron taking over on the 6 May 1975. Responsibility for land - based maritime patrols was exchanged between the two squadrons until December 1980. After this time a civilian company conducted the patrols.

In August 1977 Australia declared a 200 nautical mile Exclusive Economic Zone (EEZ) and in 1978 the Minister for Transport was made responsible for civil surveillance and the Department of Transport's Marine Operations Centre, which was responsible for ship reporting and search and rescue, was redesignated the Australian Coastal Surveillance Centre. The civilian surveillance effort would be of the order of some 27,000 flying hours per year.

S2 Tracker 846 on patrol with MAD boom out (Official RAN Photo)

In 1982 the civilian surveillance program was given the name "Coastwatch", the aircrew were dressed in uniforms and provided with more extensive training. The aircraft were upgraded with weather radar, multi-channel radio equipment, and VLF/Omega navigation equipment.

Early Beginnings - Why The Shrike?

Skywest Aviation became the successful tenderer for the new look "Coastwatch" operation and the task of selecting suitable and appropriate aircraft for the taskings began in earnest.

There had been countless suggestions to utilise the then available S2E Grumman Trackers from the RAN's retired aircraft carrier HMAS *Melbourne*, but logistically and financially, they were proven to be unsuitable. Taking into consideration that the aircraft "may" have been able to be purchased at a reasonably cheap price, offset several primary factors, namely:

- *All of the Military Technical Equipment would have to be removed – expensive operation,*
- *Reconfiguring the aircraft for "type" tasking – littoral surveillance – expensive outfitting,*
- *Mechanically, overhaul and readily available spares for the aircraft's radial engines – exorbitant.*

These were the "primary" no-go items for the Trackers as in reality, the size and type of aircraft were considered over the top and would prove financially unsustainable.

Ideally, the aircraft needed to be of a "high wing" configuration, ability to carry five crew/pax, dependable and financially viable mechanical aircraft engines, ability to be outfitted and operate the required sensors/radios Several aircraft types were thoroughly investigated and considered, but overall, one aircraft stood out from the rest that contained all of what was required - and that was the Rockwell 500S Shrike Aero Commander.

Skywest operated 16 Aero Commanders, with 2 aircraft spare, one located in Townsville and the other in Port Hedland which were not painted in Coastwatch livery, as the intention was for the aircraft to be utilised as a "covert" platform in order to draw attention away from a surveillance operation, if and when required.

A logical modification to each aircraft was the fitment of two "bubble" windows, one on either side of the aircraft, which allowed for a crew member to take clear and accurate photographs of items of interest.

Flight Operations – Aero Commander 500S

In my early days of management in Port Hedland, I was required to regularly attend Coastwatch briefings and meetings at Broome and at that time, Skywest didn't really have an onsite office or hangar facilities at the Broome Airport. After several months of searching, a demountable building was located and purchased in Port Hedland and trucked to Broome.

With the willing assistance of the Broome Coastwatch crew, contractors were hired to manufacture a concrete slab (on site) and crane our "new" office into position and set it up for all of our Broome operations.

Taking into consideration, at this time in 1987/1988, there was only one aircraft hangar at Broome Airport and was operated by a private operator with several single engine aircraft performing contract/private charters to outlying stations and Skywest was able to achieve "minor" emergency mechanical assistance if or when needed. All other mandatory/ periodical maintenance was performed at our Engineering facility in Port Hedland.

In order to save the cost of Commercial airfares between Port Hedland and Broome to attend contractor meetings, I regularly flew with the exchange maintenance aircraft up to Broome to conduct the swap and on one very eventful flight, the Pilot in Command (PIC) experienced one of life's "moments"!

The pilot set the aircraft up for landing on Runway 10 (arriving over Cable Beach) and was down to an altitude of approx. 200/300 feet and all was proceeding normal on short finals, when to both our surprises (and terror) a bright yellow/orange parachute appeared in front of the aircraft. Deft, efficient and very rapid altitude adjustment was the order of the day and that was achieved without taking our parachutist for an unwanted ride. As the aircraft climbed and banked, I was able to identify the said "culprit" and it turned out to be a speed boat operator on Cable Beach operating a paragliding venture for tourists.

Once reported, the operation was closed down, given the area of operation was directly in the glide-path for Runway 10. One could only imagine the unholy terror that could have been unleashed had one of Ansett's BAE 146's had of hooked this traveller up – immediate change of underwear required!

The Shrike 500S was proven to be a very capable and appropriate aircraft for all of its taskings and fortunately didn't suffer too many "major" problems in terms of flight operations. Of course, operating in the Tropics during the Wet Season was always going to cause a few glitches, which we often referred to as "gotcha's" and just at the time you were scheduled to fly it would occur. One incessant little pest that always had you on your guard were the wasps building their nests in the most inaccessible to see places! Not uncommon to observe a pilot running around in circles waving

hands and arms in the air after discovering and disturbing a wasp nest in some part of the aircraft. Initially, observers watching the gyrating arm flinging, fist pumping performance believed that the particular individual had won Lotto and was somewhat ecstatic of his winning!

Littoral surveillance was the oft quoted phrase when referring to the Coastwatch operations, with the word "littoral" defining it as Seaside/ Shoreline, however these gutsy little aircraft often operated out to places such as Rowley Shoals, Ashmore Reef and the Montebello Islands.

The Aero Commander 500S, accomplished and performed the duties admirably and safely, basically, they were punching way above their weight for the undertaking they were tasked to perform.

Based on my personal experiences with W.A. and N.T. operations, I flew hundreds of hours in these aircraft and observing the country side over which we flew, the 80 Mile Beach between Broome and Port Hedland at certain times of the year was absolutely flooded with migratory birds arriving for their mating season – truly a site to behold, whilst on the other hand, a coastal region well to the North in the West Kimberly district, would be an area you certainly would not want to experience an emergency landing, either on land or on the water. The land formations around the Mitchell Plateau region would have to be the most unforgiving rock outcrops you could imagine – no aircraft could or would survive a forced landing. As for a water ditching along the coastline, the periodical masses of box jelly fish certainly are not something one would like to consider, but the biggest and deadliest predator is the Crocodylus Porosus, more affectionately called the Saltwater Crocodile and these monsters do cruise along the Littoral sections of the Coastline and I have seen many of these creatures doing so.

Shrike Aero Commander in 'Customs' livery

Scheduling of surveillance flights and maintenance was managed from the Skywest Aviation, Townsville facility, but during a normal working week, Base Managers were expected to assist with support to the Coastwatch Flight Operations Manager in Townsville, such as aircraft breakdowns and replacement aircraft, pilot/ crew sickness/holiday provisions and any other unscheduled disruption occurring. A rotational weekend roster was shared by all to allow appropriate time off for Base Managers and Perth Senior Staff to ensure the Coastwatch operation was functional 24 hrs per day, 365 days per year.

During the earlier periods of operations in coastal surveillance, the flights were referred to by the locals as a "bus route", given that the flights all operated on a particular time and route schedule, with some saying you could set your watch to the correct time as the aircraft over flew their respective areas. As the Coastwatch operations matured, significant alterations were incorporated into these flight schedules and times in order to maintain a covert system, plus, security and aircraft flight operations were restricted to only the immediate managers attached to and managing the regional flights. In this manner, many successful interdictions were achieved.

Coastwatch/Customs and the AFP interoperability managed a successful covert operation in the late 1980's, when responding to a tip off, motion detector cameras were hidden around the runway area of the old Mitchell Plateau airstrip in the N/W of Western Australia. This resulted in the successful apprehension and seizure of a significant haul of drugs which had been flown into the airstrip at first light in a medium sized twin engine aircraft, believed to have originated from a neighbouring country to the North of Australia.

The track safety record in my time with Skywest, I cannot recall any "major" incident or fatality associated with the Shrike 500S aircraft and at that period, Skywest was the operator of the largest fleet of these aircraft in Australia.

A rather robust aircraft, one experienced engineering facility estimated an average annual inspection for a Shrike 500S could run between $3,000 to $4,000, barring unusual problems. Some years it could go even higher if work on engine mounts or redo all of the metal behind the exhaust outlets was needed. These estimates were all based upon how many flights had been conducted. Spare parts were fairly available from reputable suppliers in the USA; however, they did cost some pretty big dollars. Rockwell International built these aircraft to military standards, thus it was built like a tank.

Obituary WGCDR Vic Meyn RAAF (Rtd)

Vic Meyn joined the RAAF as a pilot, only to lose an arm in a swimming accident shortly after being awarded his 'wings'. He then transferred to Air Traffic Control.

In 1971-72, Vic was posted as SATCO NAS Nowra, reorganising RAN ATC to ensure it was aligned more formally with both other military and civil ATC agencies. He developed an apt training programme for ATCs on completion of their 6 month RAAF theory course at CFS. With taped communications, Vic ensured talking to aircraft and coordinating with other ATC agencies was done in a professional manner using correct terminology and procedures. Overall he greatly advanced RAN ATC by introducing accepted Approach Control techniques as just one of many examples.

Vic was 87 when he died on 7 December 2021. He is survived by his wife, son and daughter.

He was well liked and respected by those FAA personnel who knew him.

Paul Shiels, Editor Slipstream

Remembrance Day at Kapunda for SA Division

Top: Presentation by John Siebert at the Kapunda RSL whilst below those SA members attending the Kapunda RSL Remembrance Day service

By Roger Harrison
SA Whipping Boy

Well, would you believe this total year has concluded with not so much as a bang but a whimper. Covid-19 has turned the world upside down with lasting results we are all aware of and not needing a reminder here.

Firstly, the South Australian Division wish that you all have had a safe and enjoyable Christmas spent with friends and family and that this New Year will be an improvement on the last one. Our wish is that you all stay safe and remember what our National President, RADM Mark Campbell had previously stated, ask a mate RUOK?

Our State President, John Siebert and the Vice President, me, were involved with the Federal Council Meeting held via Zoom to all those members who needed to be connected to the new and improved electronic marvel called the internet. Borders on the 'Work of the Devil' in my opinion. Coffee in hand, John and I waded through the 2-hour meeting as faces came onto Johns screen and off again as others jostled for a point of view. Apart from the National Treasurer, Jock Caldwell not able to activate his camera, and thinking about it, that may have been a blessing for us all as the aging process can be quite cruel, anyway all progressed successfully to a conclusion although WA may think differently on some of the outcomes.

John Siebert has reactivated the Kapunda trip for Wednesday 10 November and several of us locals travelled the 1.5 hours north to the sleepy town of Kapunda nestled in the Barossa Valley wine growing area.

Duelling banjos aside, the township and surrounding area has a lot going for it including ancient sheep stations with flowers and grounds awash with colour, a haunted hotel, wineries and of course the local RSL from which we as a Division assisted with their Remembrance Day Service on Thursday (11th of the 11th). President John was in his Commanders best whites making the rest of us look like poor relations. John layed a wreath on our behalf and gave a short speech to the gathered masses followed by tea and coffee and tall tales. That evening we met at the 166-year-old Allendale Hotel for one of the best pub meals locally. Friday morning, we met at the Anlaby Homestead to tour the property, hold the banjos, followed by morning tea or coffee. A pub lunch locally and that evening after a local dinner, we re-joined the Kapunda RSL for our last gathering before departing the area on Saturday morning.

Regards to you all. Happy New Year.

(I imagine John will still be wearing his uniform when he is in his 90's?. . . . . .Ed)

Further Development of the Fairey Gannet

A T.Mk2 Fairey Gannet trainer XA514 / NW / 878 cordite start-up at RAN Air Station Nowra 1961
Photo Ray Guest

By Ben Patynowski author of the 'Submarine Hunter'. Ben has approved the FAAAA republishing excerpts from the book and pages not previously published.

Fairey Gannet T. Mk 2 and T Mk 5

The requirement for a dedicated training aircraft necessitated a re-design of the existing Gannet AS.1. Externally similar to the production Gannet A.S.Mk.1, the new trainer incorporated dual controls in the second cockpit, a 'periscope' above the instructor's station (second cockpit) and deleted from the aircraft was the radar equipment and its accompanying radome.

The first prototype trainer **WN365** designated **Gannet T. Mk 2** flew on 16 August 1954. The T.2 retained its open portholes behind the rear cockpit that were blanked off on production Gannets, due to light striking the forward facing radar screen and subsequently making it difficult to read.

With the adaptation of an uprated Armstrong Siddely ASMD.3 Double Mamba engine, the T.2 was redesignated ***T Mk. 5.** The prototype T Mk. 5 (WN365 re-engined) first flew on 1 March 1957. Australia retained the T Mk2, while Great Britain, West Germany and Indonesia operated the T. Mk 5 version of the Gannet Trainer.

Fairey Gannet Mk. 4

An up rated version of the Double Mamba engine to 3035eshp (2263kW) resulted in the development of the **Gannet AS. Mk 4,** which supplemented the AS.Mk 1 on the production line. Powered by the Double Mamba 101 (the production version of the ASMD3) engine it differed very little from the AS. Mk 1.

The prototype AS. Mk 4 **(WN 372)** flew for the first time at RAF Northolt on 12 March 1956, with 824 Squadron of the Royal Navy having received the first production AS. Mk.4 Gannets.

Fairey Gannet AS. Mk 4 COD

The origins of COD (Carrier Onboard Delivery) can be traced back to 1950. With the outbreak

**RAN Gannet T.Mk.2 XG888 previously returned to the RN and converted to T.5 standard now resides at the Australian Naval Aviation Museum at HMAS Albatross, Nowra later the Australian Museum of Flight.*

of war in Korea the US deployed TBM-3E's Avengers to carry and deliver personnel and equipment from shore bases to carriers out at sea. These aircraft were re-equipped to carry five passengers within the fuselage, and stores in the bomb bay.

A.S. Mk 4 COD Gannets were dedicated mail, stores and supplies aircraft, operating from ship to shore they had their radar removed and improved HF (High Frequency) radio equipment installed with extended aerial and dual masts incorporated between the second and third cockpits. The weapons bay was also modified to carry either extra fuel or stores as required, with one passenger in the rearward-facing cockpit. RN COD Gannets operated until 1972.

Fairey Gannet Mk. 6

As EW (Electronic Warfare) became a more prominent necessity in the defensive and offensive roles, the Gannet proved an ideal platform for the installation of the new radar and communications jamming equipment, and several Gannet A.S.Mk 4's were subsequently converted for the AEW (Airborne Early Warning) role.

At RAN Air Station Nowra during the 60's was COD Gannet XA454 from the British aircraft carrier HMS Hermes.

Outwardly identical to the A.S. Mk 4, they did however carry external equipment pods under the wings and associated electrical wiring and extra masts, most changes being internal, especially in the weapons bay that accommodated the new EW equipment.

Fairey Gannet AEW Mk. 3

An entirely new aircraft the Fairey Gannet AEW Mk.3 was to incorporate the latest in AEW technical advancements pioneered in the USA. Prior to the development of the AEW Mk.3 Gannet for this role, the Royal Navy received from the USA Douglas AD-4W Skyraiders under the MDAP agreement.

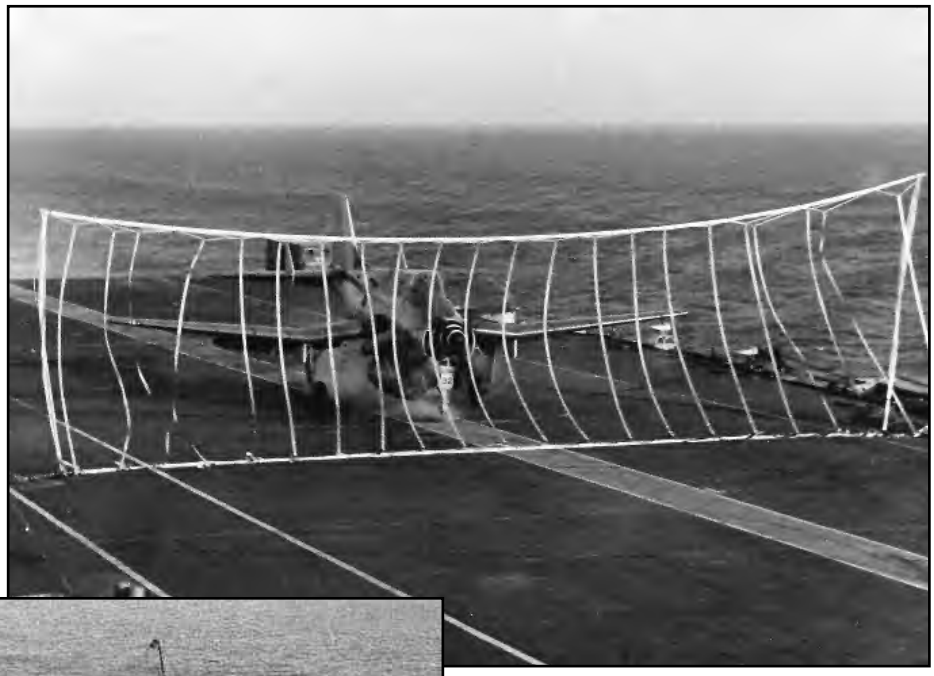
The first prototype AEW Mk.3, XJ440 flew on 20 August 1958 without the AN/APS-20F radar installed and was powered by the up-rated ASMD.8 Double Mamba 102 of 3,874 ehp. XL450 with a full avionics fit first flew on January 1959.

Apart from the wings the Gannet AEW Mk.3 retained very little of the original Gannet. Both upper cockpits were removed and the two radar operators were positioned within the redesigned fuselage, with bulged side windows on the exit doors. The engine was positioned further forward with short turbo stub exhausts just forward of the wing leading edge, it also incorporated a much larger squared off fin and rudder.

No. 849 Squadron RN, was the only operational AEW squadron to operate the Gannet AEW.3 aircraft replacing the AEW Skyraider in FAA service. 'C' Flight embarked in HMS *Eagle* and 'D' Flight in HMS *Hermes,* both 'C' and 'D' flights were also deployed in HMS *Centaur* and HMS *Ark Royal* .

Visiting RAN Air Station Nowra during the 60's were AEW Mk.3 Gannets and the COD Gannet XA454 from the British aircraft carrier HMS Hermes . An RAN Vampire and RAN Dakota are in the background. Photo Peter Adams

On Monday 27 November 1978, 849 Squadron 'B' Flight together with the Phantom and Buccaneer made the last conventional launch from HMS *Ark Royal* off Gibraltar, No. 849 Squadron being disbanded on 15 December 1978. May 1978 saw HMS *Invincible* launched with the Sea Harrier, thus ending conventional fixed wing ASW aircraft operations from RN carriers, albeit a tragic decision for Britain when faced with enemy air attack during the Falklands conflict of 1982.



Above: An AEW Mk. 3 Gannet 432 / H from HMS Hermes with a nose wheel problem preparing to engage the barrier.

Left: Gannet 842 engages the barrier
Photos courtesy Tony Rodwell

A video of the the Fairey Gannet is here URL https://www.youtube.com/watch?v=QxPxbV2r_iA

Victoria Division Report Sep-Dec 2021

Greetings to all members from the Victoria Division. Hopefully 2022 will see a return to some form of normality.

We have still not been able to hold any meetings but this is about to change with Victoria relaxing restrictions and by the time this issue goes to print we will have had our December Meeting and Christmas Breakup. We have a good number of members and guests indicating that they are attending and it will be nice to catch up after many months.

The sad news to report is the passing of Life Member John Champion. An obituary appears on Page 29 in this issue and a Memorial Service will be held shortly. Champo will be missed.

Peter Barnes, my predecessor as Victoria Division Secretary who nowadays is residing in northern NSW and long time NSW/ Victorian member Brian Farthing have both spent time in Sick Bay recently. I'm pleased to report that both are now home and on the road to recovery. We send them our best wishes.

Some months ago (it seems like years) we formed a sub-committee under the guidance of Rob Gagnon and circularised members with a series of questions regarding our future direction. We have been unable to get together to discuss the survey's findings but this will at last happen early in the new year. Our aim is to present the findings to members at our February AGM.

I take this opportunity to wish all members a safe, healthy and happy festive season and new year.

Yours Aye
Mal Smith

National President's Update

G'Day All,

It is great to be able to send out this brief update to you all again. Once again, the Association's primary annual meeting was impacted by Covid, and we were forced to hold the Federal Council Meeting (FCM) by Zoom. Much effort by our National Secretary, Terry Hetherington pulled together all that was needed, and the meeting was convened on Saturday 23 October 2021.

The meeting commenced with remembering the 23 FAAAA members who had crossed the bar during the previous 12 months. Sadly, several legends of the Fleet Air Arm aircrew and maintainers ranks are no longer with us, and they shall all be greatly missed.

Two primary items on the FCM Agenda proposed a fairer and more equitable manner of funding the operating budget of the FAAAA as well as how *Slipstream* is funded by the Association. Both Resolutions were agreed by the FCM and will come into force in due course. Probably of greater importance was a discussion on attraction and retention of FAAAA members. This topic remains the greatest threat to our Association and one that we shall continue to work hard over the next 12 months. The FCM also heard that our website has been successfully rebuilt and is no longer on life support. However, the FCM also heard that our Webmaster, Marcus Peake, will stand down from that duty at the next FCM which will be a severe blow to the National Executive. Marcus does an enormous amount of work both on the FAAAA website as well as a myriad of other matters. I shall also not be seeking re-election as President next year.

I know that Covid has affected the operations of all Divisions over the last 2 years in many ways. Hopefully Divisions will be able to re-commence social gatherings in accordance with local regulations and we might be able to get back to some form of a normal post Covid world. Until this occurs, can I suggest that we all continue to reach out to family, friends and old mates whenever you can. If you need assistance, please put your hand up.

There will always be someone around who will be able to assist you. R U OK ? remains a good and serious question!

I would like to publicly acknowledge the efforts of Paul Shiels who is our *Slipstream* Editor. Paul produces *Slipstream* while significantly constrained by poor health and I am sure that you all agree, Paul produces a truly excellent magazine. Recently, Roger Harrison (SA Vice President) has assisted Paul with sourcing material for *Slipstream* which is fantastic and greatly appreciated. Nevertheless, this is not likely to be a long term solution, so if anyone out there thinks that they might be able to assist Paul, please contact either him or me.

Can I wish all readers a very Merry and safe Christmas and all the very best for the New Year. May 2022 be a much better year than 2020 and 2021!

Mark Campbell
RADM, RAN (Rtd)
National President.

December 2021

HMAS Sydney Remembered on 80th Anniversary

By Sharron Spargo

Against the cloudless azure sky, overlooking the choppy blue waters of the Indian ocean, 645 silver Seagulls flew above the large crowd gathered in the coastal city of Geraldton, to honour the lives lost on HMAS Sydney II in 1941.

The impressive and poignant memorial consists of seven pillars which are representative of Australian states and territories, in the middle of which sits a ship's propeller and acts as a wreath laying altar. Above fly the stainless-steel seagulls, one for every life lost. The Stele, representing the ships bow stands above the waiting woman who watches for the ship's return while the reflective pool points the way to Sydney's resting place. The Wall of Remembrance and the names listed, seem to embrace and enfold this beautiful and solemn spot that sits atop Mount Scott and dominates the Geraldton skyline.

The City of Geraldton, the RSL, the Naval Association of Australia, along with many others, worked together to ensure the ceremony itself befitted the occasion and, for the most part, this was achieved. Unfortunately for our members, who were seated behind a low wall occupied by many locals without nominated seats, their view was obstructed, and the sound and TV systems were no match for the howling westerly and our members heard and saw no more. Despite these technical difficulties, the events MC, Mr Warren Nathan, MNZM, remained cool and composed and under what quickly became arctic conditions, the service was conducted with poise and good humour.

After a Welcome to Country, Veterans marched in and were followed by the Catafalque Guard and an address by Hon Melissa Price MP, Minister for Defence Industry, Minister for Science and Technology. The Memorial Warden, Mr. Don Rolston, gave a very heartfelt address where he thanked the volunteers who keep the memorial going and the main address was given by Commodore Ivan Ingham AM, RAN.

In 1941 the Kormoran's surgeon was Dr Siebelt Habben who survived the battle and the war as a POW in a Murchison camp in northern W.A. and it was his son, Dr Redelf Habben's recorded voice which addressed the crowd next. Living in Kiel, Redelf is responsible for erecting a memorial which commemorates and remembers all those who lives were lost on Sydney and Kormoran, equally and with honour. 'Kormoran survivors refer to the Sydney crew as "brothers" and still weep at the loss of more than 700 men in that watery expanse.' His speech focused on honouring those lost on Sydney with a view to strengthening ties between the German and Australian sailors' families. To this end I've learned that there is a movement in Kiel, both naval and diplomatic, for a joint memorial service to be held in Kiel in 2023. It would be interesting to hear what you think of the inclusion of Dr Habben's speech on this occasion and the idea of a joint memorial service.

The W.A. division is very grateful to our Treasurer, Mike Keogh, ably assisted by his lovely wife Lynn, for all his hard work and awesome organisational skills which made it a fantastic weekend for the 24 members who made the journey to Geraldton. Sadly, Greg and Ann Kelson had to return to Perth before the service as Ann was injured in a fall. At the time of writing, she remains in the local hospital but is looking forward to going home soon. We all send our love and wish her a speedy recovery.

Take care and have a safe and happy Christmas and a brighter new year.

HMAS Sydney at sea circa 1940

Left: HMAS Sydney Memorial, Geraldton WA

Right: WA Division Members at the 80th Anniversary Memorial Service

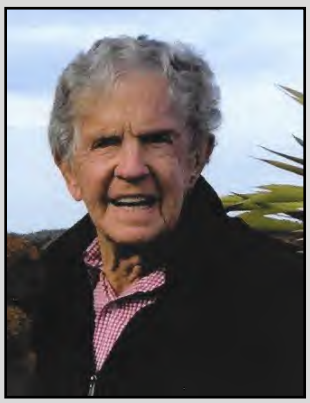
Left: Saturday Night Dinner. Guests included Wayne and Maureen Parsons. Wayne (RAAF) served on 9 Squadron with John (Bomber) Brown in Vietnam and was aboard HMAS Manoora when the first wreath was laid above HMAS Sydney.

Left: Ric and Geraldine Casey; and Barry and Marcia Waldon

Right: Floral Tributes

Obituary—CPOAVN John Green RAN (Retired)

John Green died on 10 November 2021 aged 89. His funeral was held at Oakwood Funerals, Booragoon WA on 19 November 2021. John was a Life Member of the FAAAA and founding member.



John Green

He joined the RAN from Perth as a Recruit (Naval Airman) on 7 June 1950. After his initial training he was rated a NA(II). Further advanced was made to NA (I)(AH III) before confirmation as a Leading Air Handler on 11 August 1962. Promoted to A/POAAH on 12 November 1965, John was confirmed in the rank 12 months later. On 7 May 1968 he passed his CPO examinations. The last entry in his service records reflect that John was discharged from HMAS *Melbourne* on the 11 November 1968. Thus, serving in the RAN for 18 years.

During his service from the 1 March 1952 until 9 August 1953 he served with the 21st CAG on 816 Sqn alternating between HMAS *Albatross,* HMAS *Sydney,* and for a short period in HMAS *Vengeance.* With many more postings to HMAS *Albatross,* John seemed to have missed postings to HMAS *Melbourne* except a 'book entry' for the 11 November 1968 for one day! John also served in HMAS *Cerberus*, HMAS *Penguin,* HMAS *Harman,* and HMAS *Leeuwin* in a variety of roles and training.

John Green will be remembered as a loyal member of the FAAAA (WA Division) who devoted enormous time and effort to the welfare of members.

Paul Shiels
Editor Slipstream

RNAS Archerfield Commissions

Kerry Road, Archerfield: The scene outside the Igloo hangars where MONAB VII worked alongside TAMY I. From left to right the aircraft are, a Corsair, a Barracuda, and a Hellcat, a second Hellcat can be seen in the distance.

Mobile Naval Air Base VII

Assembly and commissioning in the UK

Personnel and equipment for Mobile Naval Air Base VII began to assemble on 19 March 1945 at RNAS Middle Wallop, Hampshire, the new headquarters of the Mobile Naval Airfields Organisation (MNAO).

It was to assemble as a second Receipt and Despatch unit (RDU). MONAB VII differed from its predecessor MONAB II in the fact that no Maintenance, Storage & Reserve (MSR) components were included in the units' make up, instead the unit would have two Maintenance Servicing and one Mobile Maintenance components, as would a standard MONAB, with the addition of Erection, Equipping and Stripping units as the Receipt & Despatch components.

MONAB VII was allocated the following maintenance components:

Mobile Maintenance unit (MM) No. 6 supporting Avenger Mk. I & II, Corsair Mk. II & IV, Hellcat Mk. I & II and Seafire Mk. III & L.III
Maintenance Servicing unit (MS) No. 11 supporting Firefly Mk. I
Maintenance Servicing unit (MS) No. 12 supporting Sea Otter Mk. I
Erection & Equipping Units supporting Avenger Mk. I & II, Corsair Mk. II & IV, Hellcat Mk. I & II, Seafire Mk. III & L.II, Sea Otter Mk. I & Vengeance TT.IV
Stripping Unit as above but excluding Vengeance.

As a larger unit MONAB VII had a nine-week forming up period as the new components had not been assembled before; the Receipt and Despatch tasks were already carried out by both MONAB II and TAMY I, but as part of their design, however these components which required their own compliment and scale of equipment and stores had never been planned for as separate components. Technical ratings were drafted from R.N. Barracks, Lee-on-Solent, and general service ratings from R.N. Barracks, Chatham.

Like the previous units much time was spent in giving drafting leave to Officers and ratings who were supposed to have had it before they joined, also a large proportion of personnel that were being drafted to join the unit were found to be untrained for their assigned billets, especially drivers, or were too old or unfit for service overseas so replacements had to be requested.

Major problems arose concerning motor transport; all vehicles allocated to MONAB VII were held by the HQ unit and were not released until it was put on the road for movement to the Port of Shipment. This measure prevented the MONAB VII MT Maintenance Officer from taking the proper precautions to preserve the vehicles for passage and articles like tool

kits and toolboxes were missing on arrival of the vehicles in Australia, because no proper arrangements had been made to secure them.

Although an MT Maintenance Party travelled in the store ship, it was not possible to work on any vehicles other than those on the upper deck. The training of drivers was also problematic; there was no provision for MT driving instruction by the MNAO HQ so it was left to MONAB VII to organise its own MT course lasting 14 days for both officers and ratings (including Royal Marines).

With the formation of MONAB VII a new system was introduced for the handling of unit stores; instead of all stores being delivered to the formation base to be checked, repacked and labelled ready for despatch overseas, everything was consigned directly to the port of embarkation from the store depots saving unnecessary transport and handling of store cases. However, the Unit was often left in the dark until the last moment as to whether the stores would eventually be delivered in time for shipment and required continual liaison between the Unit's Supply Officer and the depots. The new system resulted in 100 cases that were advised as being ready for shipment, and that actually appeared on the Bill of Loading, were not shipped. This was owing to the cases not arriving at the port of shipment before the store ship sailed.

June 1st 1945, commissioning day: Captain F. P. Frai, RNVR, Commanding Officer HMS Nabreekie (in front, side view) talking to Rear Admiral L. D. Mackintosh, DSO, DSC (centre), Captain L. J. S. Edes, Commanding Officer HMS Flycatcher (right).

Despite these problems MONAB VII Commissioned as an independent command bearing the ship's name HMS *Nabreekie* on 1 June 1945 with Captain. F.P. Frai RNVR in command.

Despatch overseas

On completion of preparations for despatch overseas the personnel and equipment of MONAB VII were transported to Liverpool for embarkation; the first group by rail on 17 June and the remainder by road on the 20 June. Those travelling by rail boarded a train at Andover on the morning of Sunday 17 June and went non-stop to Liverpool docks, embarking on the Troopship *Stirling Castle* on arrival. The ship was to sail independently for Sydney carrying large numbers of New Zealand and Australian personnel, many ex-POWs, returning home; the ship sailed the next day.

The second group accompanied the vehicle convoy which travelled

Function

Forward area Receipt & Despatch Unit.

Aviation support Components

Mobile Maintenance (MM) 6
Maintenance Servicing (MS) 11& 12
Aircraft Erection Unit
Aircraft Equipping Unit
Aircraft Stripping Unit.

Aircraft type supported

Avenger Mk. I & II
Corsair Mk. II & IV
Firefly Mk. I
Hellcat Mk. I & II
Seafire Mk. II & L.III
Sea Otter Mk. I

Commanding Officers

Captain F.P. Frai RNVR 01 June 1945
to 5 November 1945

Air Mechanics (Engines) from HMS Nabreekie pose with a Corsair at Archerfield.

overnight from Middle Wallop on 19-20 June; after leaving the convoy at a marshalling yard outside Liverpool they embarked in the Troopship *Andes* which sailed from Liverpool on 29 June. The stores and vehicles were loaded onto the Sea Transport *Samfoyle* (LS3135) at Gladstone Dock and sailed from Liverpool on 14 July. The two Troopships would take passage via the Panama Canal, the *Samfoyle* via the Suez Canal.

Despite sailing 11 days later than the *Stirling Castle*, *Andes* arrived in Sydney three days behind her. *Stirling Castle* took longer to complete her transit of the Panama Canal before making a two day stop at Wellington to deliver home repatriated Kiwi ex-prisoners of war from their internment in Germany, while the *Andes* disembarked her passengers at Wellington and sailed for Sydney the same day. *Stirling Castle* arrived at Sydney on 24 July and the *Andes* on 27 July. Australian ex-POWs were landed by both ships before MONAB personnel were disembarked.

The Ship's company were accommodated at Newcastle Race Course, a part of HMS *Golden Hind*, RN Barracks Sydney, to await the allocation of an operational base. At the time of their arrival in Australia there was no airfield available for occupation by a MONAB. Also changes in the original forward planning meant that MONAB VII would not be required to fulfil its planned role of forming a second receipt and despatch unit, in the forward area; the need for a ' leap frogging' chain of MONAB units was not to materialise.

The planning staff of the British Pacific Fleet (BPF) headquarters decided that MONAB VII should remain in Australia, sharing the facilities at Archer field airport in Brisbane, with Transportable Aircraft Maintenance Yard No.1 (TAMY I, HMS *Nabsford*) and would be moved to occupy an airfield in Australia when one became available. Meanwhile, the *Samfoyle* had been diverted to Brisbane to unload the unit's stores and equipment.

While in Sydney awaiting transportation to Brisbane a special detachment was formed for aircraft erection duties at RAAF Oakey, in Queensland. This detachment, comprising of 50 ratings plus NCOs, was to supplement an existing annex of TAMY 1 which had been operating at Oakey since 18 May erecting Seafire aircraft. The detachment was flown directly from Sydney to Oakey shortly after the MONAB had disembarked.

The main body of MONAB VII personnel were transported to Brisbane by rail; this was a long journey, 12 - 14 hours, with the men riding in open cattle trucks, seated on wooden bench seats. Toilet facilities were very primitive, and frequent stops were made for rest breaks and refreshments along the way. The advance party, mainly the senior officers, were flown up to Archerfield.

Upon arrival at Brisbane the ship's company was transported by road to their new homes, part of the unit went to RN Camp Rocklea, about 1½ miles north of the airfield at Archerfield; this was the administration and main accommodation base of TAMY I, HMS *Nabsford*. The main body of the unit went to a second establishment, RN Camp Meeandah, 16 miles north near to the Eagle Farm airfield. This camp, a US Navy Seabee depot until shortly before the RN arrived in Brisbane, was taken over by HMS *Nabreekie* accordingly the facilities were of a good standard. Accommodation at Meeandah was mostly under canvas, the Americans had left behind a 'tented village' which was transferred with the base.

Members of the stores department pose in their battledress and webbing at Warwick Farm in early August 1945.

Commissioned at R.N. Camp Rocklea , Brisbane, Queensland

MONAB VII commissioned as HMS *Nabreekie* at RN Camp Rocklea on 8 August 1945 and two days later work commenced when 300 ratings began work alongside personnel of TAMY I. This was done in the four 'Igloo' hangers at the Kerry Road site were the TAMY I erection, inspection & repair, air radio and air gunnery workshops were located.

Only five days later it was announced that the Japanese had surrendered and the war was over. RN Personnel celebrated VP Day at Archerfield on the 16 and 17 August and work resumed the following day. However, the need for extra manpower and increased production of assembled airframes had suddenly been removed and thoughts of the future were now foremost in everyone's mind.

Upon their arrival on site the men from MONAB VII had to be introduced to the stage system of aircraft erection in use at Archerfield and were initially put to work alongside the TAMY I gangs; once trained they even replaced some of the gangs on the production floor. Those living at Camp Meeandah had a 30-minute lorry ride to work every morning travelling through the city. They made the return journey after work finished at around 1600. Lunch was served in the TAMY I dining hall and galley which were two miles from the airfield, located in Rocklea Factory. This was the site of the engine and ancillary workshops, half a mile away from the Rocklea Camp.

It was to be another three weeks before the *Samfoyle* arrived at Brisbane on 1 September and the stores and equipment could be transported to RNAMY Archerfield; many of the specialist vehicles were not used, especially those relating to airfield operations as all flying was conducted by TAMY I. Aircraft assembly work was to continue during September and October both at Archerfield and at RAAF Oakey. The Oakey detachment was not withdrawn until 29 October after assembling and despatching 29 Seafires over the seven months of operation.

R.N. Camp Rocklea: This view is possibly the sick bay and other admin buildings at Rocklea camp. Note: the ambulance parked behind the two Jeeps

Paying Off

On Monday 22 October the Flag Officer Naval Air (Pacific) Rear Admiral Portal, visited HMS *Nabreekie* when a general inspection and Admiral's divisions were held. Afterwards the Admiral addressed the ship's company and outlined the future plans for MONAB VII. It was announced that as part of a review of the naval air support in the Pacific theatre four MONABs were to be disbanded in early November 1945, these were to be MONAB I, III, IV and VII. As part of this downsizing operation MONAB V was to replace MONAB I at Nowra and MONAB VI would replace MONAB III at Schofields; MONAB VII was to be paid off with some of the ship's company returning to the UK and some drafted to other MONABs, however a large number were transferred to the strength of HMS *Nabsford*, TAMY I.

No longer required for service, HMS *Nabreekie* (MONAB VII) was the first of the operational MONABs to be paid off on 5 November 1945. In many ways the paying off of HMS *Nabreekie* appears to have been a paperwork exercise. The personnel of MONAB VII who were not drafted back to the UK or other units (this appears to be the majority of the non-commissioned personnel) were transferred to the books of HMS *Nabsford*, being formed into Mobile Repair Unit No.3 and work continued as usual.

Obituary— CSAAW (CPO) Kevin Wright RAN (Rtd)

Kevin died on 2 November 2021 aged 92.

He joined the RAN on the 17 November 1952 as an A/EAIV (A). After a short period of 12 months in the RAFR on FTS in 1963, Kevin re-joined the RAN in 1964 for a further extended period. He completed RAN service on 1 August 1969 totalling 17 years.

Postings over the years primarily were between HMAS *Albatross* and HMAS *Melbourne* and attached Squadrons.

In May 1967, Kevin undertook a Skyhawk Electronics course before discharge.

1940 Brocklesby mid-air collision

On 29 September 1940, a mid-air collision occurred over Brocklesby, New South Wales, Australia. The accident was unusual in that the aircraft involved, two Royal Australian Air Force (RAAF) Avro Ansons of No. 2 Service Flying Training School, remained locked together after colliding, and then landed safely. The collision stopped the engines of the upper Anson, but those of the machine underneath continued to run, allowing the aircraft to keep flying. Both navigators and the pilot of the lower Anson bailed out. The pilot of the upper Anson found that he was able to control the interlocked aircraft with his ailerons and flaps, and made an emergency landing in a nearby paddock. All four crewmen survived the incident, and the upper Anson was repaired and returned to flight service.

The Avro Ansons after landing safely, having collided in mid-air and locked together, 29 September 1940

Training school and flight details

No. 2 Service Flying Training School (SFTS), based at RAAF Station Forest Hill near Wagga Wagga, New South Wales, was one of several pilot training facilities formed in the early years of World War II as part of Australia's contribution to the Empire Air Training Scheme. After basic aeronautical instruction at an elementary flying training school, pupils went on to an SFTS to learn techniques they would require as operational (or "service") pilots, including instrument flying, night flying, cross-country navigation, advanced aerobatics, formation flying, dive bombing, and aerial gunnery. No. 2 SFTS's facilities were still under construction when its first course commenced on 29 July 1940.

On 29 September 1940, two of the school's Avro Ansons took off from Forest Hill for a cross-country training exercise over southern New South Wales. Tail number N4876 was piloted by Leading Aicraftman Leonard Graham Fuller, 22, from Cootamundra, with Leading Aircraftman Ian Menzies Sinclair, 27, from Glen Innes, as navigator. Tail number L9162 was piloted by Leading Aircraftman Jack Inglis Hewson, 19, from Newcastle, with Leading Aircraftman Hugh Gavin Fraser, 27, from Melbourne, as navigator. Their planned route was expected to take them first to Corowa, then to Narrandera, then back to Forest Hill.

Collision and emergency landing

The Ansons were at an altitude of 300 metres (1,000 ft) over the township of Brocklesby, near Albury, when they made a banking turn. Fuller lost sight of Hewson's aircraft beneath him and the two Ansons collided amid what Fuller later described as a "grinding crash and a bang as roaring propellors struck each other and bit into the engine cowlings". The aircraft remained jammed together, the lower Anson's turret wedged into the other's port wing root, and its fin and rudder balancing the upper Anson's port tailplane.

Both of the upper aircraft's engines had been knocked out in the collision but those of the one below continued to turn at full power as the interlocked Ansons began to slowly circle. Fuller described the "freak combination" as "lumping along like a brick". He nevertheless found that he was able to control the piggybacking pair of aircraft with his ailerons and flaps, and began searching for a place to land. The two navigators, Sinclair and Fraser, bailed out, followed soon after by the lower Anson's pilot, Hewson, whose back had been injured when the spinning blades of the other aircraft sliced through his fuselage.

Fuller travelled eight kilometres (five miles) after the collision, then successfully made an emergency pancake landing in a large paddock six kilometres (four miles) south-west of Brocklesby. The locked aircraft slid 180 metres (200 yd) across the grass before coming to rest. As far as Fuller was concerned, the touchdown was better than any he had made when practising circuits and bumps at Forest Hill airfield the previous day. His acting commanding officer, Squadron Leader Cooper, declared the choice of improvised runway "perfect", and the landing itself as a "wonderful effort". The

Sergeant Fuller (right) with Australian High Commissioner Stanley Bruce in London, 1941

RAAF's Inspector of Air Accidents, Group Captain Arthur "Spud" Murphy, flew straight to the scene from Air Force Headquarters in Melbourne, accompanied by his deputy Henry Winneke. Fuller told Murphy: "Well, sir, I did everything we've been told to do in a forced landing—land as close as possible to habitation or a farmhouse and, if possible, land into the wind. I did all that. There's the farmhouse, and I did a couple of circuits and landed into the wind. She was pretty heavy on the controls, though!"

Aftermath

The freak accident garnered news coverage around the world, and cast a spotlight on the small town of Brocklesby. In preventing the destruction of the Ansons, Fuller was credited not only with avoiding possible damage to Brocklesby, but with saving approximately £40,000 (£1.7 million today) worth of military hardware. Both Ansons were repaired; the top aircraft (N4876) returned to flight service, and the lower (L9162) was used as an instructional airframe. Hewson was treated for his back injury at Albury District Hospital and returned to active duty; he graduated from No. 2 SFTS in October 1940. He was discharged from the Air Force as a flight lieutenant in 1946. Sinclair was discharged in 1945, also a flight lieutenant. Fraser was posted to Britain and flew as a pilot officer with RAF 206 Squadron, based in Aldergrove, Northern Ireland. He and his crew of three died on 1 January 1942 during a routine training flight, when their Lockheed Hudson collided with a tree.

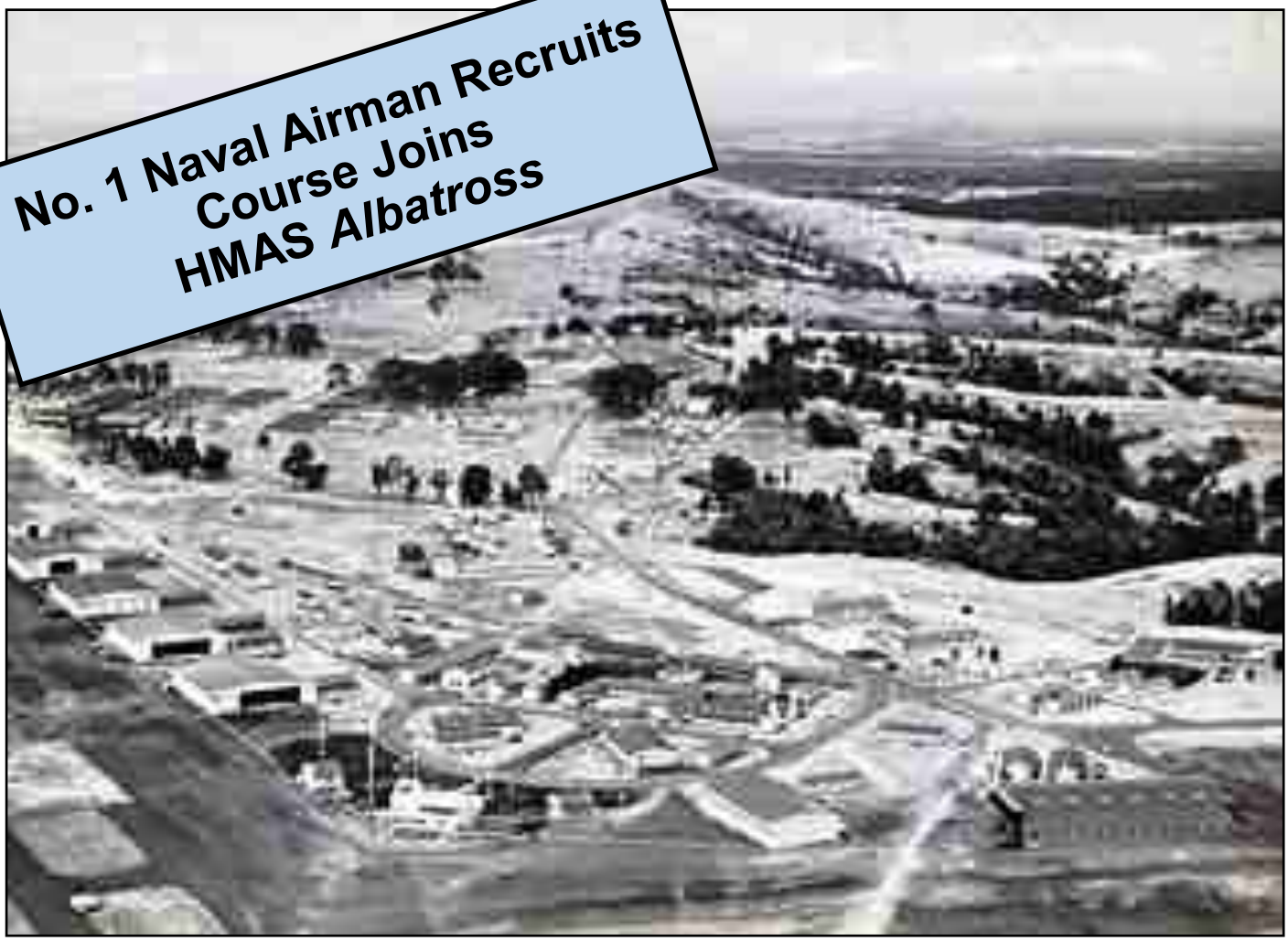
Fuller was promoted to sergeant after his successful landing, but also confined to barracks for fourteen days and docked seven days' pay for speaking about the incident to newspapers without authorisation. He graduated from No. 2 SFTS in October 1940, and received a commendation from the Australian Air Board for his "presence of mind, courage and determination in landing the locked Ansons without serious damage to the aircraft under difficult conditions". Fuller saw active service first in the Middle East, and then in Europe with RAF 37 Squadron. He earned the Distinguished Flying Medal for his actions over Palermo in March 1942. Commissioned later that year, Fuller was posted back to Australia as a flying officer, and became an instructor at No. 1 Operational Training Unit in Sale, Victoria. He died near Sale on 18 March 1944, when he was hit by a bus while riding his bicycle.

Legacy

According to the Greater Hume Shire Council, the 1940 mid-air collision remains Brocklesby's "main claim to fame". Local residents commemorated the 50th anniversary of the event by erecting a marker near the site of the crash landing; it was unveiled by Tim Fischer, the Federal Member for Farrer and Leader of the National Party, on 29 September 1990. On 26 January 2007, a memorial featuring an Avro Anson engine was opened during Brocklesby's Australia Day celebrations.

(The accident is reflected in URL https://en.wikipedia.org/)

No. 1 Naval Airman Recruits Course Joins HMAS *Albatross*



HMAS Albatross, Naval Air Station Nowra as seen circa 1950
Note: the first Control Tower in the foreground

From the Booklet by Les 'Jukie' Matterson and other contributors from No.1 NAR Course

The primary aircraft shore base for the RAN was HMAS *Albatross*, RANAS Nowra, NSW, located about 160 kilometres south of Sydney. The rural township of Nowra was 11 kilometres away and numerous holiday resorts and beaches were accessible within a 30 kilometre radius — provided road transport was available: Huskisson, Culburra and Shoalhaven Heads to name a few.

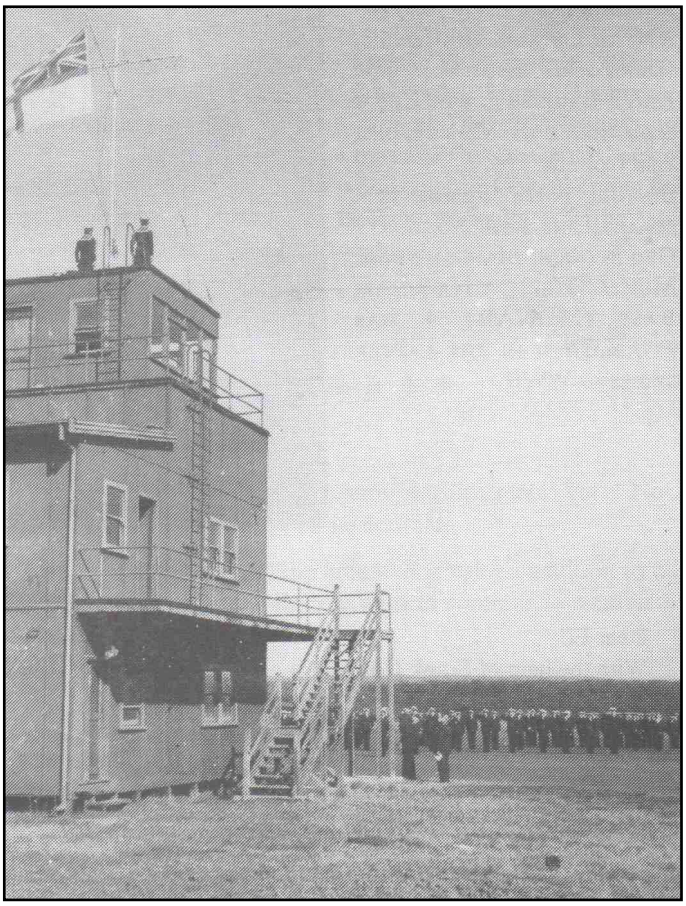
Being somewhat isolated, the establishment was built up to be relatively self-supporting. Improvements and additions had been made since the first construction stage. However, all buildings had external corrugated iron cladding attached to steel framework for the hangars and wood frames for accommodation and support buildings. When aircraft taxied or flew in the vicinity of the hangars, the metal cladding rattled distractingly.

A large multipurpose building served as a cinema, gymnasium and assembly hall. The cafeteria, sick bay, post office/bank, library and wet and dry canteen were sited adjacent to the accommodation area. A bomb dump and explosives storage area was situated on the far side of the airfield well removed from other installations. Surfaced roads provided access to the living quarters and facilities, hangar areas, workshops and administrative buildings albeit there were few footpaths. Popular belief at the time was that the authorities waited until well-trodden tracks appeared so they could determine where to lay the paving.

Junior ranks messdecks were located in a series of large, lined dormitory like huts containing beds and lockers, public address speakers for communications and entertainment and a toilet compartment at one end. Separate ablution blocks with hand basins and open shower spaces were nearby. Personnel attended to most of their own laundry requirements, although a laundry and dry-cleaning service was available at reasonable charges if preferred. Laundering presented a problem during periods of excessively wet weather as there were no drying rooms — only outdoor clothes - lines.

Another annoyance was caused by mosquitoes in summertime. Attempts to have these inconveniences remedied were rebutted with the official explanation that the establishment was too far north to warrant drying rooms; too far south to warrant mosquito nets.

Maintenance of buildings and grounds in general was the responsibility of the Commonwealth Department of Works whose offices and workshops were just outside the main gate. However, navy personnel were often engaged in self-maintenance tasks, particularly



The White Ensign hoisted above the original Control Tower for the first time by the RAN

painting, gardening and minor repairs; the latter occasionally assisted by the Shipwrights Shop.

Two years from date of entry, the members of NAR 2, 3 and 4 were automatically advanced to the rank of Naval Airman lst Class (N Al) with a pay increase to 13 shillings ($1.30) per day. In addition to the prerequisite qualifications for advancement to higher rank in the future, a recommendation based on a history of high overall performance in addition to selection, would be the determining factors.

On completion of leave, those who returned from the UK by passenger liner settled into life at Albatross. 805 Squadron Sea Fury aircraft and 816 Squadron Fireflies were conducting flying operations from the airfield.

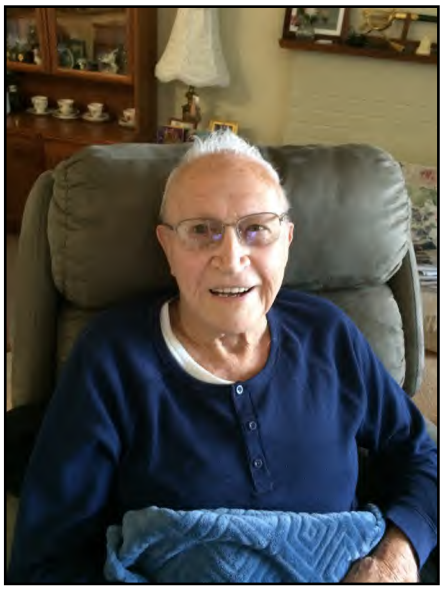
Members of the group were employed in the various support facilities e.g. Blacksmith, Wheels and Tyres, Hydraulic, Ground Equipment, Engine and Aircraft Repair and Salvage Sections. Eventually they would be posted to squadrons in exchange for personnel who had completed a period of front-line aircraft service. The 15 NAMS who returned from leave in January 1951, rejoined their squadrons (808 and 817) where they remained to embark in HMAS *Sydney* later in 1951 when she sailed north to participate in the Korean War. Ceremonial Divisions was held once a month on the hard standing between the hangars and airfield. A church parade was conducted every Sunday morning. With the exception of the gymnasium and tennis courts, sporting facilities left a lot to be desired, nevertheless interdepartmental competition in cricket, rugby, soccer, hockey and athletics was undertaken with enthusiasm.

The air station worked a three-watch system independently of the squadrons which operated their own particular routines. Night and weekend leave was available for non-duty personnel and two main leave periods, each of two weeks duration, were granted annually. As personal transport was in short supply, a navy three (3) ton truck with canvas covered back fitted with bench type seating along the length of the tray on each side, was the early means of transport for liberty men between HMAS *Albatross* and Nowra township. This was later replaced by a bus service operated by either Payne and Kelly or, on occasion, Ralston. Apart from the change of scenery and the chance of female companionship, Nowra offered more variety as a shopping centre than the canteen, and a choice of pubs, viz. the Nowra, Prince of Wales and Bridge. There were also two movie theatres, the Roxy and Wests, and dance nights were held in the Catholic School Hall until it became too congested and the venue was changed to the School of Arts.

The alternative to a run ashore was to remain on board and perhaps visit the wet canteen and/or attend a movie show in the cinema. A good book from the library was another option, or one could study or if preferred, engage in a hobby. Cards and mah-jong were popular messdeck pastimes and occasionally word would spread that a two-up school had been organised, despite common knowledge that swy *(?. . .Ed)* and other gambling enterprises also were illegal, which seemed to enhance the thrill and allure of the game. Cockatoos were posted to forewarn of a raid by the Crushers and the game was on until the punters lost their nerve or reached their limit.

Weekend trips to Sydney were also popular. Transport was arranged either with the owner of a private vehicle or by return steam train from Bomaderry railway station. For those without relations or friend's resident in the city, cheap accommodation and meals were available at Grosvenor House, known to all sailors as "Johnnies". This establishment operated a bar in the basement which earned the apt title of "the snake pit".

The reinstatement of naval aviation as an integral part of the RAN had given the air station new life and a future. Members of NAR 2, 3 and 4 were at this stage dispersed throughout the establishment in various workshops, sections and squadrons. In pursuit of their own destinies each, to a greater or lesser degree, would play a part in that future. Regardless of any other factors, life at Albatross was indeed interesting and would remain so through the years ahead.

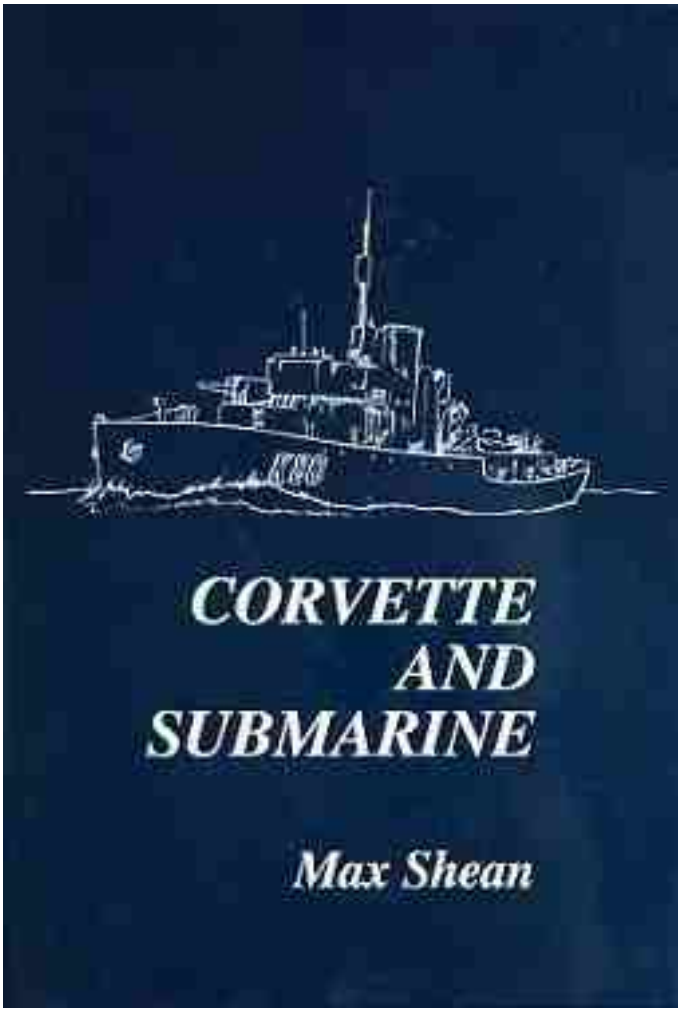


John Currie one of the original No.1 NAR Course at age 93

BOOK REVIEW

Corvette and Submarine

by Malcolm Murfett



Almost 30 years since publication, but apposite for its depictions of armed services equipped with locally designed and built submarines and anti-submarine ships, this book is also an enlightening bio-graphical account of an Australian sailor at war.

The author was an engineering student at the University of Western Australia when WWII broke out, he joined the RANVR in August 1940 for the anti-submarine branch. With an engineer's predilection for precise detail, he relates his training in Australia for and service in an RN corvette and later in X and XE submarines- including an attempt to sink the Tirpitz.

His naval life began at Flinders, there instructed in drill, signals, seamanship, ship administration and mess etiquette. An introduction he says to "…a naval tradition of high expectation and no evasion." After sunny HMAS *Cerberus,* he transferred to HMAS *Rushcutter* for anti-submarine warfare training and "…more discipline." Home leave followed, then a cruise on the grey funnel line visiting the Pacific, the Panama Canal, Bermuda, the Atlantic, then a stay at the Boomerang Club, Australia House, London.

At this point 'adventure' becomes the harsh reality of wartime on HMS *Bluebell*. The author's account of her, her ship's company and role is at once gripping and chilling. *Bluebell* was on merchant convoy escort duty to Gibraltar. Battling storms and U-boats, the sinking of merchant ships and consequent loss of life was common. He relates the drowning of 21 WRNS and an RN nurse from SS *Aguila* sailing for duty in the Mediterranean. 'The Cruel Sea' and novels by J.E. Macdonnell are evoked - but this is not fiction. With *Bluebell* in refit, the author volunteered for "…special and hazardous duty…" ignoring a truism he knew "Keep your mouth shut … and never volunteer". He trained with sailors from all Commonwealth countries in 3 man, X class submarines: fifty two feet in length, five feet ten inches in diameter and 30 tons. Various X prototypes were trialled in lochs around Glasgow with loss of both life and submarines. Problems to be overcome were: how to get the vessels the long distance to the *Tirpitz,* efficiently cut through underwater protection nets, set the explosives and get back?

Given fears the *Tirpitz* might escape, training stopped short of ideal, plans were advanced, and X24 with the author in command was towed by a larger submarine to near the Norwegian coast. After manoeuvring through minefields, surface patrols and clearing an anti-torpedo net, the target was located, charges dropped and X24 escaped intact. All this related matter-of-factly as if no other result was possible. Back out at sea, having located their tow home with HMS *Ulysses,* news was they'd sunk an enemy coal ship - unbeknown, the *Tirpitz* had moved.

A later XE operation for LEUT Shean was in the Pacific, where underwater communication cables used by the enemy were successfully cut, again related with understated descriptions of achievement, courage and sacrifice.

There are photographs putting faces to those surviving and not, sketches of events and vessels, also a glossary (some familiar, others of their time), a bibliography and appendices detailing *Bluebell's* convoys and Honour Roll, and an index.

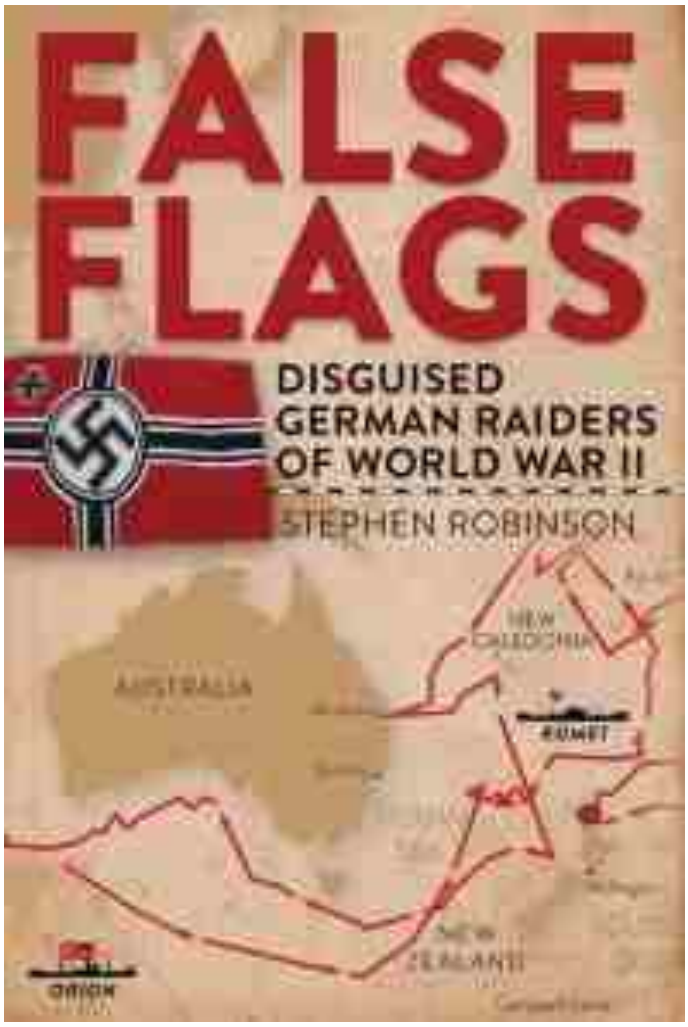
A engrossing account of every-day heroes and a reminder of the millions of stories from war untold.

Kim Harris

False Flags

by Stephen Robinson

BOOK REVIEW



There is a plentiful supply of publications on German Raiders of both WWI and WWII covering the exploits of individual ships and their cohort. So when we have suffered exhaustion from Sydney/Kormoran stories why do we need another? Stephen Robinson is a gifted historical writer with good credentials, having served as a policy officer in the Department of Defence, as an officer in the Australian Army Reserve and as an instructor at the Royal Military College. He has undertaken extensive archival research of German and Allied records and uncovered some previously unpublished information in compiling this volume.

False Flags provides a well presented and absorbing look at a fascinating small number of ubiquitous cargo ships that were cleverly converted into potent auxiliary cruisers, while maintaining their disguise as innocent merchantmen. While there was a total of nine German Raiders the author mainly concentrates on the four that patrolled waters close to the Australian seaboard and caused havoc during the early days of WWII.

We explore how these ships were chosen and converted to their new roles, how they were manned, and especially the characteristics of the men who were to command them. They were indeed a special breed, chosen for their ability and initiative that could mould and train their crews to exceptionally high standards with very limited support. However these ships could not remain on patrol indefinitely without replenishment of fuel, food and munitions. This involved having another group of fast supply tankers to rendezvous with the Raiders.

Both Raiders and their supply ships had the difficult task of breaking out from Germany or occupied France through blockaded choke points into clear waters. None of this would be possible without assistance, direct or indirect, provided by friendly powers. The epic passage of Komet from the North Sea across the top of Siberia and then via the Bering Sea into the Pacific could not have been undertaken without the assistance of Russian icebreakers and pilotage – at this time Russia was allied to Germany.

We look at the extensive minefields laid in Australian and New Zealand waters by *Orion* and *Pinguin.* An unknown story to this reviewer concerns the ships *Orion, Komet* and *Kulmerland* briefly operating as a squadron in the Western Pacific and hampered by an excessive number of prisoners. When off the PNG island of Emirau some 70 miles north of New Ireland they off loaded more than 500 prisoners under the care of two white planters who were left a serviceable boat which they could eventually use to find assistance.

There has of course to be mention of the unexpected meeting between *Kormoran* and *Sydney*. As Raiders sought to say clear of Allied warships the author postulates that *Kormoran* might have done more to evade Sydney if she had made better use of her seaplane for reconnaissance.

In summary this book will not disappoint those interested in naval history it provides a comprehensive account of an important aspect of naval warfare. It is full of interesting facts, is well researched and has a good index.

Reviewed by Arcturus

*(First published on Naval Historical Society of Australia website **here** on 29 March 2017)*

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A project has begun to write a book on the service of the A4G Skyhawk in the RAN. It will be in the style of the line of books made popular by "Buccaneer Boys". As such it will be focussed on the stories of the people who flew, maintained and supported the Skyhawk during its life on VF805 and VC724.

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