



Edition 72 - August 2023

# Fly By



## **Torpedo Training**

The Role That Nowra Played

## **Just Along For The Ride**

Meat Pies and Copiloting Don't Mix!

## **The Last Days of the Tirpitz**

The Extraordinary Raids that Finally Killed the Beast



# Editorial

By M.C. Peake - Editor, 'FlyBy' Magazine



Aside from freezing winds and either too much rain or not enough (depending on which State you live in), July has been...well, a typical month. Dreadful news every time you turn on the television, bigger bills every time you open an envelope and, just to cap it all, promises of a truly scorching summer. You can't help thinking that the world is in a mess and we're right in it.

It's at times like this that mateship and support count for so much, so please reach out to your friends and family. A simple phone call every now and again, a beer in the local or a coffee at the downtown cafe can count for so much. And don't forget those simple words: "Are You OK?" They cost nothing and are a powerful gesture of support.

Every month I put a little plea in this column asking for contributions. This month **Arthur Johnson** features a golden moment in which he recounts the unlikely confluence of a meat pie and a Dakota. It's a little gem and inspired me to dust off my old artist's charcoals. You can read it on page 18 and I really hope it inspires a few more contributions - there are a million such stories out there and I want to capture them all for posterity.

As I get on my rusty exercise bike each evening I pass the time by perusing the internet, looking for stories or snippets of information that I think might be of interest to our readers. This month I'm pleased to bring the story of the demise of the mighty German battleship *Tirpitz*. Although the FAA had battered her for years (see FlyBy 70, June

2023) it was the RAF who finally did her in, but its a compelling story nevertheless.

We've also got an article on what used to go on on BTU road, which we'd all remember from our Nowra days, and a wonderful little article about the archaic tradition of 'Carrier Art' by **Graeme Lunn**, currently braving the heat of London in further research for his forthcoming book on VAT Smith. Since *Melbourne* paid off we haven't seen any such activity so perhaps the XOs of *Canberra* and *Adelaide* can step up to the mark.

For those that don't know, news is also out of the departure of **Commodore David Frost**, the current COMFAA, who posts overseas to Washington at the end of the year. **Captain Matt Royals** will sew on a fat stripe to replace him, and we wish both of them well. No doubt there will be more about this in coming editions of this magazine.

We've also paid tribute to the late **Captain Robert Ray** MBE RAN, who crossed the bar back in March but whose Memorial Service took place at the FAAM on 21 July. Rob's ashes were scattered from a 723 Squadron EC135 over Beecroft range, for reasons that you'll discover if you read the article on page 16.

Next month I celebrate an auspicious anniversary and my bride is dragging me off to Fiji for a while, so September's *FlyBy* might be shorter than usual. Just depends on how much energy I have left on return....

Safe Travels. Ed.

## THIS MONTH'S COVER PHOTO



An EC 135 of 723 Squadron conveys the ashes of CAPT Robert Ray towards their final resting place, escorted by an 'honour guard' of a HARS Naval Historic Flight Iroquois. You can see details on page 16 of this edition. (Navy image). ➔

## REST IN PEACE

Since the last edition of FlyBy we have been advised that the following people have Crossed the Bar:

**Alfred "Rusty" Marquis, Roger Scovell, Russell Boyce, Tony "Jan" Criddle, Adrian Monty and Allan McKenzie.**

You can find further details by clicking on the image of the candle. ➔



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# The Skyhawk Years

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The new book by Peter Greenfield and David Prest is about to arrive onshore.

Filled with stories, memories and evocative images, it is the definitive account of the RAN's A4Gs and the men who operated them.

Read more and order your copy [here](#).



Secure your copy now!

## Understanding Your Benefits

By Jim Bush

### Asbestos & Chemical Exposure Health Check

Some of the work undertaken in the ADF might mean that you were exposed to asbestos or other hazardous chemicals. If you believe this happened to you, Defence may pay for you to get a special health check.

If you believe you were exposed to asbestos, or other cancer causing substances such as beryllium, cadmium or lead, you should call the Defence Service Centre on 1800 333 362 to register your details. They will send you an information pack which will contain details on how to proceed with your test.

DVA has an information sheet on the subject which you can read [here](#).

Furthermore, Defence offers what it calls 'Non Liability Health Care' for certain conditions, which may include cancer and tuberculosis.

"Non Liability" means that, if you have rendered a specific type of service, you don't have to prove that these conditions are related to your service in the ADF.

#### Veteran Health Card Holders

Veteran Gold Card holders are automatically covered for free treatment of mental health care, cancer and tuberculosis medical conditions under the Non Liability Health Care provisions.

Veteran White Card holders will need to apply to have the free treatment entitlement for mental health care, cancer and tuberculosis accepted and added to their White Card treatment entitlements.

Any questions and further advice on entitlements regarding free medical treatment under the Non Liability Health Care provisions may be obtained from DVA by calling the veteran line 1800 838 372.

## FAA Wall of Service Update

Completed plaques for the following names are now with the Foundry for manufacture and will be affixed to the Wall once the plaques are received:

M. Cowley  
J. O'Regan  
A. R. Milsom  
B.J. White  
D. M. Prest  
K. J. Skomba  
K. Yates  
P. B. Cosgrove  
D.J. Spratling  
J.R. Buchanan

Order No. 53 is now open for anyone who wishes to apply for a plaque. This order will be submitted to the Foundry once we have a sufficient number of applications to make the manufacturing process viable.

For those who don't know, the Wall of Service is a way to preserve your Fleet Air Arm Service in perpetuity, by means of a bronze plaque mounted on a custom-built wall just outside the FAA museum. The plaque has your name and brief details on it (see background to photo above).

There are over 1000 names on the Wall to date and, as far as we know, it is a unique facility unmatched anywhere else in the world. It is a really great way to have your service to Australia recorded.

It is easy to apply for a plaque and the cost is reasonable. Simply click [here](#) for all details, and for the application form. ➔

The eligibility criteria and other information regarding entitlements for free medical treatment for mental health conditions, and the specific service type for free medical treatment for cancer & tuberculosis conditions are set out in the 'Cover for mental health care,' and the 'Cover for cancer and pulmonary tuberculosis,' and may be read [here](#).





Dear Editor,

Great 'FlyBy' once again – I notice August's issue is covering torpedoes and thought the attached may be of interest.

It reports the crash of a US Army Air Corps B26 which arrived at RAAF Nowra. For a short time, USAA B26 aircrews did torpedo training at Nowra.

You will notice in the text that the B26 dropped approximately 25 ft on approach caused by a down draft – no doubt an early example of trouble on the approach to runway 26.

Cheers, **Kim Dunstan.**

*By Ed. Thanks, Kim. Yep, this edition contains the story that RAAF Nowra played in torpedo development. The signal you provided is possibly the earliest report of the dreaded runway 26 downdraft, which was to claim many victims over the years. It wasn't fixed until after the Sea Venom crash in 1960, which took the lives of Frank Hodgson and Mal Holloway. ➔*

Dear Editor,

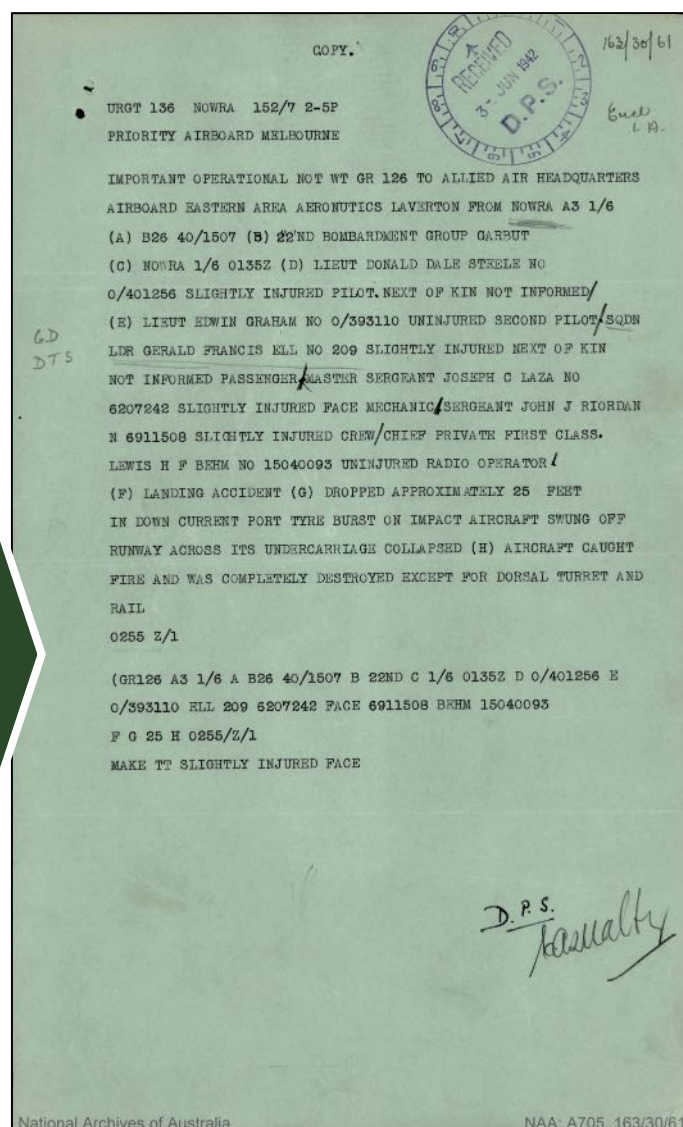
I'm glad I will not be airborne when AI takes to the skies!

I remember when the TOM TOM was first introduced to help drivers find their way round the country side. How many drivers blindly followed her instructions and ended up over a cliff or into a river and it is still happening .

OK NOT AI but programmed intelligence. Just dumb drivers blindly following instructions by a dumb computer.

Next Tesla and driverless vehicles. How many accidents caused by AI not allowing for the 0.01% event not thought of by the programmer?

Plus the dumb ass driver/ passenger??? sitting



comfortably in the back seat. Yes it happened recently in the USA.

By the time the airborne robot learns that it screwed up and self corrects, another 600 pax dead.

As the saying goes "Shit in Shit out". If the AI programmers are as good as the ones who work for Microsoft designing their woke algorithms which class a comment of 'Bravo Zulu' as racist, heaven help us.

As stated in the story the "Bean counters" rule!! Money speaks!!

Great stories and I agree that non-FAA tales are a bonus.

Cheers, **Beachball.** ➔

Dear Editor,

My interest is in the development/operation of the Australian Joint Anti Submarine School from the 1960s to 1970s.

In the 60s, my Dad, then Commander Noel

Farmer, was Staff Officer of Naval Control of Shipping. Later he became its head before he retired in 1973. He kept coming to Nowra until 1978.

Are you able to refer me to any sources of interest? My email is [here](#), or you can contact me on 0409 621 949.

Kind regards,

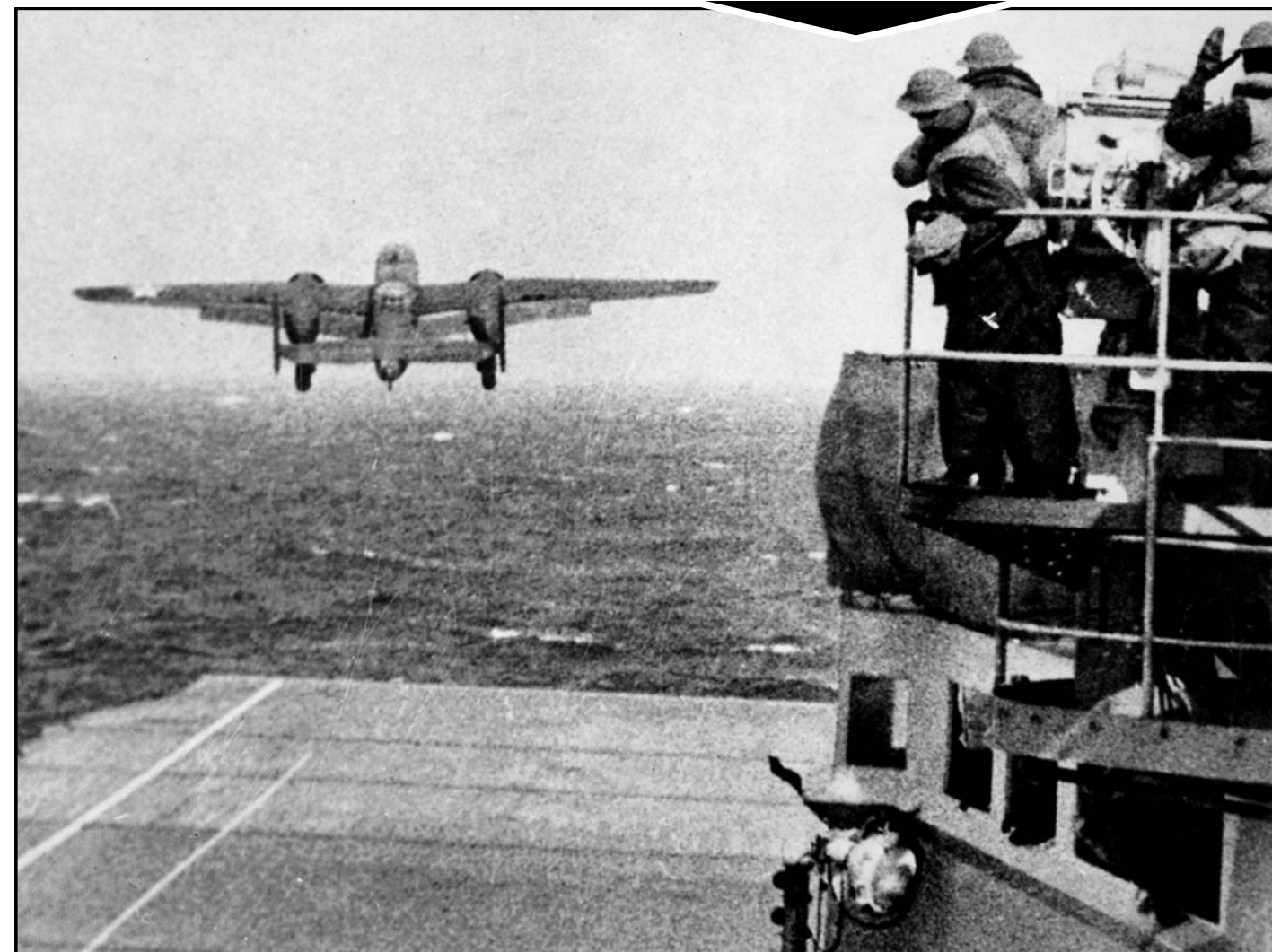
**Helen Wilson.**

*By Ed. Can anyone help Helen, either with direct information or perhaps a pointer to where she might find some? ➔*

Dear Editor,

The diabetic drug which also is being used to reduce weight loss called Ozempic (Semaglutide) can be accessed through your medical practitioner at PBS rates.

Your doctor has to contact DVA for approval and the patient must be within the Body Mass Index (BMI) and be referred to a dietitian to obtain a script that would otherwise cost around \$140.00 per month.



I suspect very few doctors are aware of this and Veterans with a Gold Card who wish to reduce weight may find this will benefit.

Cheers, **Ps Jon Dorhauer**

*By Ed. Thanks Jon. Readers should note that subscribing this drug is solely at the discretion of your doctor. This letter should not be taken as endorsement of the product, nor a recommendation to try it. ➔*

Dear Editor,

Just to thank you for this most wonderful magazine. I enjoy every article about the RAN FAA. One feels that one is getting ready for a successful landings on the *Melbourne*.

A small error on the Doolittle Tokyo raid: The aircraft flown were not "modified Hudsons" but in fact were B-25 Mitchell bombers.

Thanks again, **Vernon Benjamin.** ➔

*By Ed. Thanks, Vernon. I stand corrected. B-25s they were, as shown in the photo below. Not sure where the 'modified Hudson' notion came from...perhaps a senior moment!*



Dear Editor,

Who said it pays to advertise? Completely correct who ever it was, as yesterday on returning to my vehicle parked at the Happy Valley (South Australia not Hong Kong) Reservoir, a chap parked alongside mentioned he had noticed the "Fly Navy" sticker on my vehicle as he was also ex FAA, joining in 1971 and serving on 724 Skyhawks etc.

I promptly handed over a FAAA Business card that Marcus had sent me and encouraged him to consider joining the SA Division. He seemed keen, and I will meet him next Monday (24th July) for a bush walk around the reservoir with a few of his mates.

Bernie seemed a delightful fellow and I feel he could be a new Member to replace those we have had to let go due to their unfinancial status. So, it pays to have a bumper "Fly Navy" sticker on the back window.

Regards, Whipping Boy SA (aka **Roger Harrison**)

*By Ed. Good advice, Roger. Those readers who have yet to buy some stickers can do so. Click [here](#) to order.*

## FLYBY MAGAZINE INDEX

'FlyBy' magazine has been going since June of 2017, amassing hundreds of pages of photographs and articles of interest.

Work has been continuing on an index to allow readers to find past material, should they wish.

The index is about 75% complete and works backwards from the most recent edition (this one!) to (currently) edition No.18. Earlier magazines will be added as time permits.

You can access the index [here](#), or simply type "Index" into the website search engine to find it.



# Reunions

## FAA REUNION



Old Bar 16-18 August 2023

You are invited to join us for a FAA reunion which will include a Vietnam Veterans' Day commemorative service hosted by the Old Bar Public School to mark 50 years since Australia withdrawal from Vietnam.

Our base will be Club Old Bar where we have been invited to play barefoot bowls and/or mini-golf for \$10 per person. Come along and enjoy the company of old mates as well as meeting some new ones.

A flyer containing all necessary information including registration form can be downloaded [here](#). ➔

## PHOT BRANCH REUNION

There will be a grand gathering of the PHOT/IMAGERY Specialist Branch in October of this year, as follows:

**Friday 27<sup>th</sup> October.**

1430-1700 "Meet & Greet" at the FAA Museum, Nowra, followed by dinner at the "Postman's Tavern", Nowra @ 1800.

**Saturday 28<sup>th</sup> October.** Trip to view HARS aircraft. Lunch at Shell Cove. Dinner Worrigeer Sports Club.

**Sunday 29<sup>th</sup> October.** Recovery lunch at home of Brian Warnest, in Berry.

Click [here](#) for more details and to register your interest in attending. ➔



# Fatal FOD

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**A recently released NTSB report into the fatal crash of a civilian CH-47D Chinook last year reminds us that, despite decades of education about the dangers of Foreign Objects, they can still catch the unwary.**

The aircraft was engaged in firefighting for the US Forest Service near North Fork, Idaho. It had completed about 1.5 hours of operation using a bucket on a long sling, which was being filled in the nearby Salmon River.

As the aircraft made an approach to dip the bucket it was observed to commence a left yaw that increased in severity. The helicopter then descended rapidly and struck the river a few seconds later. Neither of the two pilots survived.

A local resident's 38 second [video of the accident](#) was used to determine that, at the time of impact, both rotors were turning at their rated speed of 225 rpm, and that, prior to the onset of yaw, the aircraft was operating normally. At the time of impact the Chinook was rotating at 124° per second.

So what went wrong?

When the wreckage was recovered from the river an iPad was found nearby. It had three significant witness gouge marks along its bottom edge, and was bent inwards towards the screen.

The subsequent investigation using an exemplar helicopter showed that the signature damage to the device was caused when it became wedged against the copilot's left rudder pedal. When pressure was applied to the pedal the iPad was squeezed between the pedal and heel slide support assembly, which prevented proper control movement. The investigation also showed that the crew's flight helmets and restraints, as well as

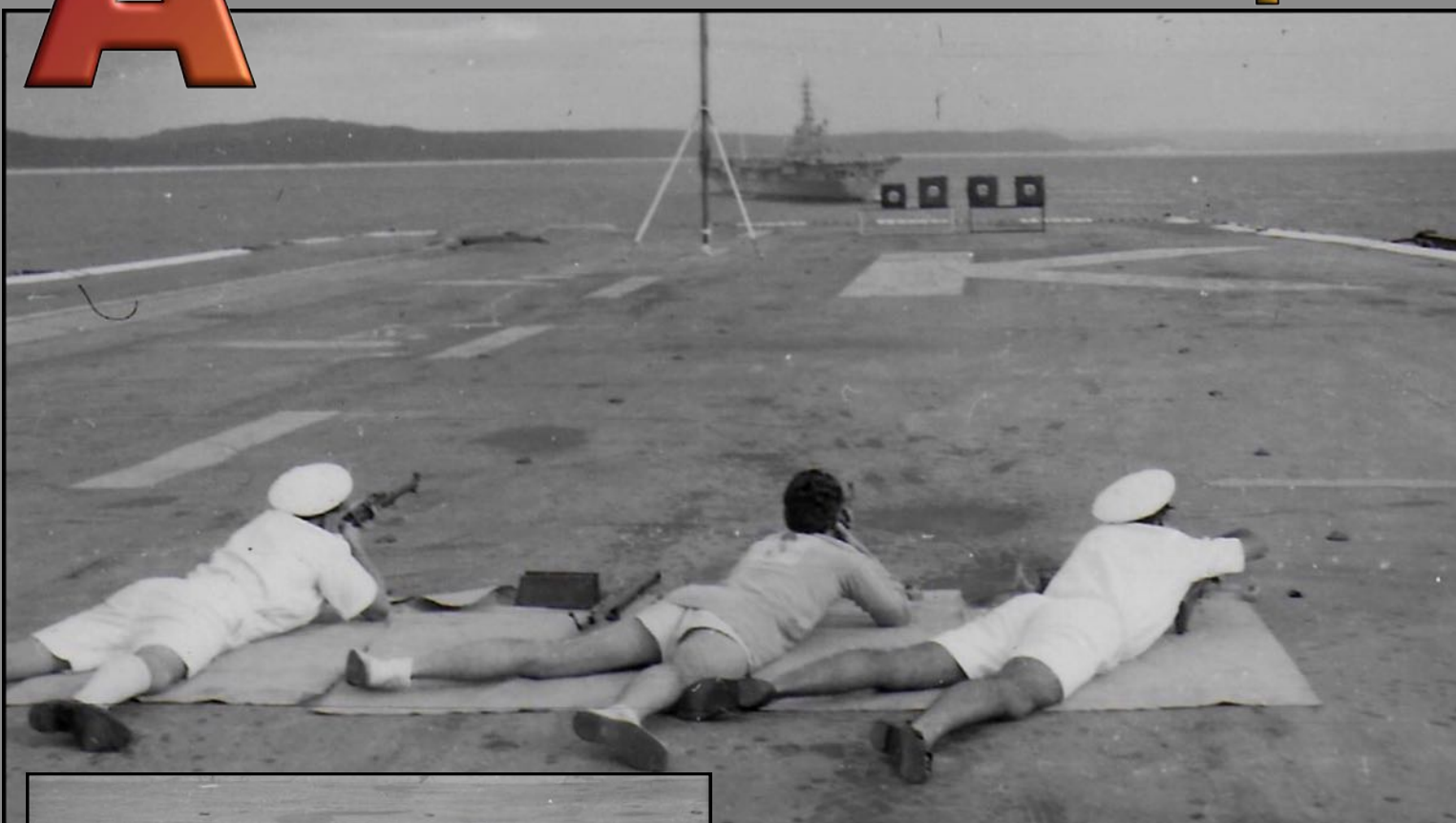


the cockpit instrument panel visor, prevented the crew from reaching the iPad to retrieve it.

Do you secure loose objects in the cockpit correctly? ➔



# Around The Traps



**Michael Payne** sent in these two photos showing a few blokes engaged in rifle practice on the deck of HMAS Sydney. It is not clear whether the target is the bull's eyes at the forward end of the flight deck, or *Vengeance* beyond - or perhaps both. Doesn't say much for their range clearance!

Michael advised that the photos were part of the collection of his late father, **Arthur Payne**, who served in the RAN FAA from '52 to '70, after transferring from the RN. He believes the images were taken sometime over the weekend 11-12 September 1954 in Platypus Bay on the western side of Fraser Island, QLD. The three men were all on 816 Squadron and are named as Tim Branson(?), Les Anderson and Peter Hargreaves.

If anyone has any corrections to the above, or can add a few memories to the occasion, please contact the Editor [here](#). ➔

*Navy News. Article by CPL Jacob Joseph.*

After relying on overseas imports for more than a decade, a Geelong company will refine and supply military aviation fuel to Defence after it was awarded an initial six-year contract from Government this month.

Viva Energy Refining will provide F-44 (Avcat) or JP-5, a military specification aviation turbine fuel, for use in Navy helicopters.

The high-flash point fuel is typically used by ship borne military aircraft in most NATO countries.

It will be produced in Geelong, home to one of two remaining Australian oil refineries.

Defence currently imports this fuel and it has not been produced in Australia since 2013.

Defence Industry Minister Pat Conroy said the contract would reduce reliance on imported fuels.

"The Government is working hard to build a resilient fuel supply for Defence and to strengthen Australia's national security - and this domestic fuel supply contract will contribute to this." Mr Conroy said.

The contract included an option to extend to 12 years and Viva Energy will also work with defence on energy transition and renewable fuels.

Viva Energy supplies about a quarter of the country's liquid fuel requirements. It is the exclusive supplier of Shell fuels through more than 1000 service stations across the country.

The contract also includes provision of fuel to all Defence installations around Australia and Butterworth in Malaysia. ➔



Mike Sim, who was a sniper on one of the SAS teams during Operation Bursa sent in these photos, which we hadn't seen before. They are of Sea King and Wessex fast roping practice, we think at East Sale.



▲ An MH-60R Seahawk is refuelled during flying stations on board HMAS Parramatta in 2020.  
Photo: LSIS Leo Baumgartner





## More Trouble With Electric Vehicles

Norwegian shipping company Havila Krystuten has imposed a blanket ban on carrying electric or hydrogen powered vehicles aboard any of its ships, due to fire hazard.

This follows the loss of *The Felicity Ace* (right), from a different shipping company, in the Atlantic last year, which caught fire and sank with over 3800 vehicles aboard. Investigators suspect that the fire may have been caused by one of the EVs, which the ship's firefighting systems could not cope with.

Havila Krystuten acknowledges that, the risk of conventional petrol cars catching fire is higher than that of EVs, but once alight the latter are much harder to extinguish. The shipping company reported "This is a pure safety assessment, and the conclusion of the risk analysis shows that a possible fire in fossil vehicles will be able to be handled by the [ship's fire] systems...whilst a fire in electric, hybrid or hydrogen cars will require external rescue efforts and could put people and the ships at risk."

In a separate incident, the collapse of a New York city parking garage with the death of at least one person has put the spotlight on ageing structures and heavy electric vehicles.

The increased weight of electric vehicles - typically over 500 kg more than their fossil counterparts - has led to concern that building structures may not be strong enough to support the weight of an increasing number of EVs.

These concerns run counter to the general trend towards phasing out Internal Combustion Engine (ICE) vehicles in various countries or jurisdictions



around the world. For example, in August last year California announced a total ban on the sale of fossil cars from 2035. So far, six other US States have followed California's example.

Car manufacturers have seen the writing on the wall and have shared timelines for when they plan to phase out ICE vehicles. These include General Motors, which will only sell zero-emission cars by 2035; Jaguar (2025), Volvo (2030), Rolls-Royce (2030) and Honda (2040). Ford will discontinue ICE cars by 2030, but only in Europe. Other manufacturers also have transition plans in place.

Meanwhile, the debate on the carbon footprint of pure Electric Vehicles versus Hybrid versus ICE continues, with evidence suggesting that buying an electric vehicle with a large battery that requires significant charging every day actually produces more carbon than other forms of vehicle engine.

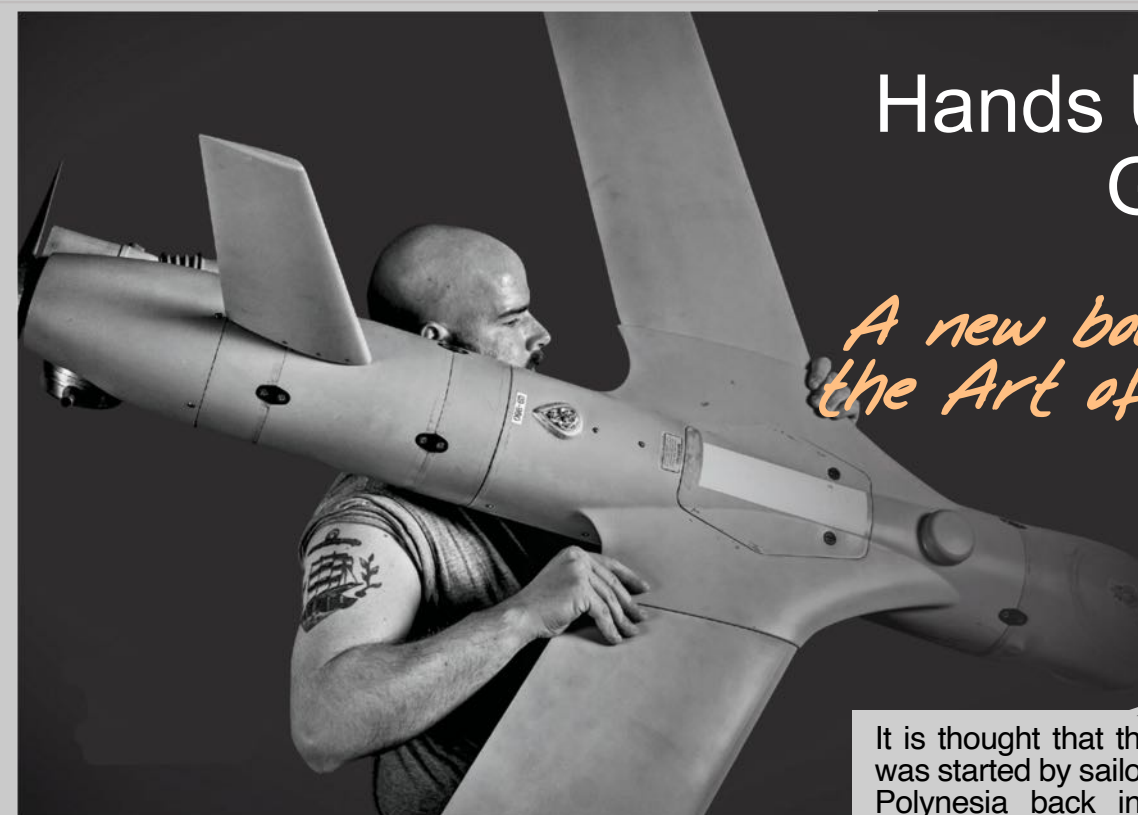
Stop Press. At the time of going to print reports were coming out of another ship carrying nearly 3000 cars on fire off the Dutch coast. The fire is suspected to have started in one of the Electric Vehicles aboard. ➔

## Hands Up Who's Got a Tat?

*A new book Explores the Art of Tattoos in the RAN*

It is thought that the tradition of Navy tattoos was started by sailors aboard RN ships visiting Polynesia back in the 16<sup>th</sup> century. The matelots of that time brought back the habit with their own ideas and designs, and, according to one estimate, 30% of Anglo and American sailors wore tattoos by the late 18<sup>th</sup> Century.

A new book, which is essentially a photographic essay of tattoos in the RAN is now available on line for your perusal. Brought to you by LCDR Singer, the author, the photographers of the RAN and the Sea Power Centre, it is certainly worth a look. You can see it [here](#). ➔



## Historic Maintenance Event



The first ever deep maintenance activity on a US Navy MH-60R Seahawk 'Romeo' helicopter in Australia has been completed at Sikorsky Australia's facilities in Nowra, NSW.

The US Navy aircraft arrived in Australia in October 2022 to undergo the deep maintenance activity, known as a planned maintenance interval (PMI), which was completed this month.

Commodore **Darren Rae**, Director General Navy Aviation and Aircrew Training, said the induction of the US Navy MH-60R into Australian facilities was a "strategically significant milestone" for Australia and the United States, who share priorities to strengthen supply chain resilience in the Indo-Pacific. (Defence Image and words). ➔

## Hiring Clothes To Let Tourists Travel Light

A well known far-eastern airline has launched a pioneering way to reduce its carbon emissions. The airline has teamed up with one of the countries largest corporations to offer a clothing rental service for visitors.



The logic behind the aptly named "Any Wear, Anywhere" service is to encourage passengers to pack lighter, reducing the airline's fuel consumption and the associated carbon emissions. Good luck with that! ➔



**The Pink Pig**

A Royal Air Force helicopter was on a routine training mission following the river Thames at 1,250 feet. The aircraft was in the midst of a right turn when the pilot saw a large pink pig at his one o'clock position at about one-half mile, rising rapidly out of the haze layer. The turn was stopped and the helicopter overtook the pig, passing clear of its port flank. The "pig" was a balloon approximately 40-feet long, which had broken away from its mooring at a local amusement park.

The article above was sent in by **Phil Thompson**, from material found in the *US Naval Aviation News* of Jan 1978.

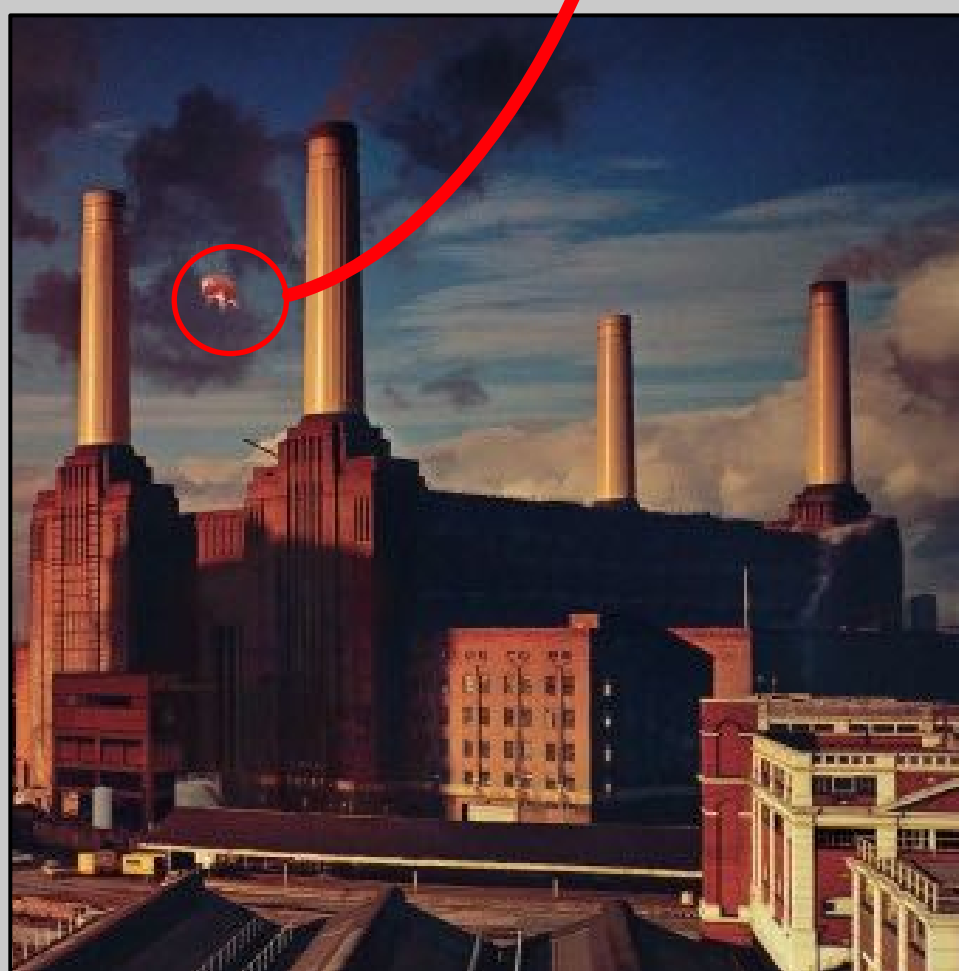
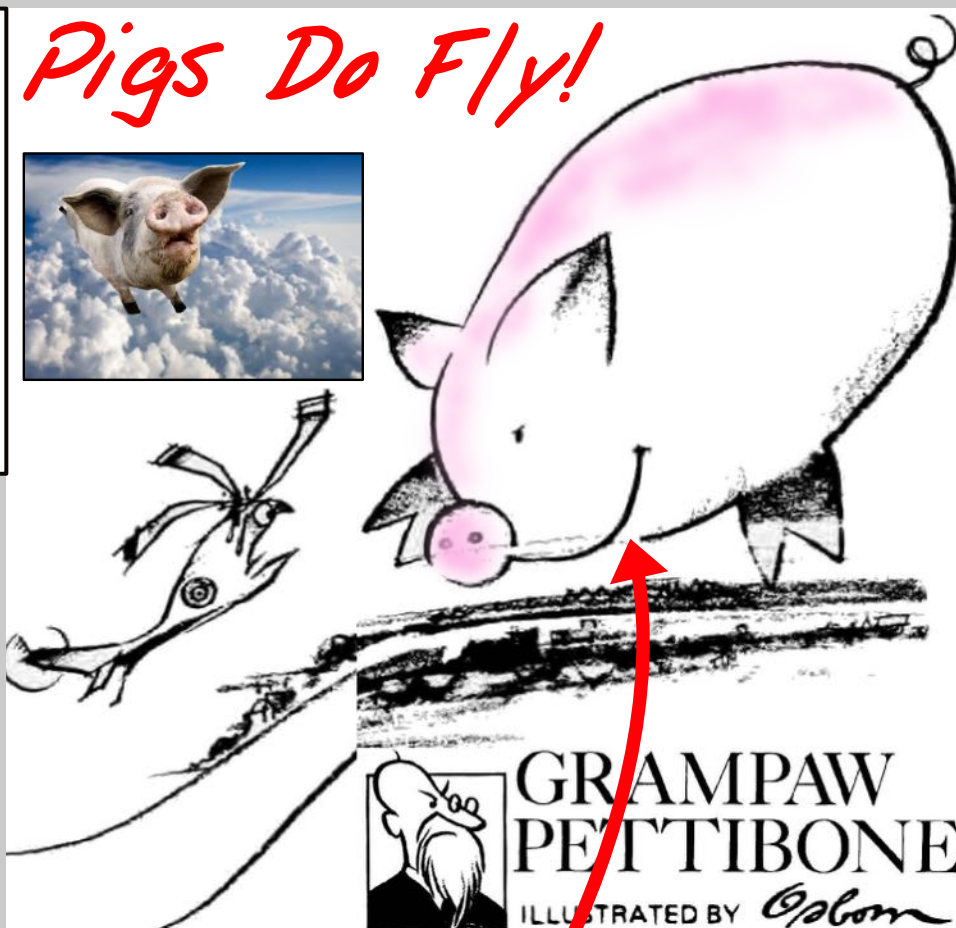
The runaway pig originated from Battersea Power Station, which was being used by the rock group Pink Floyd for a cover photo shoot for their upcoming album *Animals*. They had commissioned a 40-foot inflatable pig as part of their tour, and the band decided to tether it between Battersea's chimneys. As a safety measure they employed a marksman whose task was to shoot down the pig should it escape.

On the second day of the process the tether broke in a gusty wind, and the porcine floated away. Unfortunately the sniper had only been hired for the first day, so he wasn't there to make bacon.

The nearby Heathrow airport started receiving UFO reports almost immediately, and closed their airspace to all flights. Police and RAF aircraft were called in, but after the initial sighting the creature had disappeared - as had the band, who decided discretion was the better part of valour and fled the scene.

Local radio stations implored listeners to look out for the balloon, which resulted in an unprecedented number of prank calls. Eventually, however, a local farmer responded angrily to say it was sitting in his field scaring his cows. ➔

# Pigs Do Fly!



**GRAMP  
PETTIBONE**  
ILLUSTRATED BY *Opblom*

## 270 Course Graduation



From L-R: **LCDR Brad Eaton** (SNO), **CDRE Brett Dowsing** RAN Ret'd; Mr **Bill Abbotson** (FAAA Assn); Mr **Jim Bush** (FAAA Assn); **LEUT Mike Hannigan**; **LEUT Harry Coldwell**; **LEUT Greg Cook**; Mr **Mike Keogh** (FAAA Assn); **CMDR Max Speedy** DSC RAN Ret'd (61 Course) and **CDRE Vince DiPietro**, AM, CSC RAN Ret'd (101 Course).

The three RAN personnel graduated with eight RAAF pilots, one of which was a female. LEUT Cook took out prizes for Navigation, Instrument Flying, Most Proficient Pilot and was Dux of the Course. LEUT Coldwell took out the Academics Prize. It was a most successful Navy Day.

Max Speedy (ex-RANHFV) and Vince DiPietro (former COMFAA) were in Perth privately and were able to join Brett Dowsing in presenting Pilot Wings lapel pins which had been sponsored by some former aircrew including **Geoff Ledger**, **Graeme Lunn** and **Peter Adams**. ➔



### DID YOU KNOW?

The number of vertical white bars on the threshold of a runway indicates its width?

Runway Width	Number of Stripes
60 feet (18 m)	4
75 feet (23 m)	6
100 feet (30 m)	8
150 feet (45 m)	12
200 feet (60 m)	16

Most large international airports capable of accepting the largest passenger airliners employ wide runways, so you will see eight white bars on either side of the centreline. But, if you live near a smaller regional airport or a general aviation airfield, you'll find fewer threshold strips indicating to pilots the width of the runway they're about to land on. ➔





Vic Battese and Todd Glynn flash up Huey 898 in Nowra for the run up to Albion Park for the July Tarmac Day. Photo: Howard Mitchell. Can you help HARS? The insurance on the Navy Heritage Flight hulls is due, and will cost \$10,500. If you can make a contribution, however small, it would be very much appreciated. Click [here](#) to make a donation. ➔

## What do pillows and bird strikes have in common? Roxie Laybourne!

Roxie Laybourne who has died at the age of 92, made a significant contribution to aircraft safety as a forensic ornithologist. Her special expertise was in identifying birds that had sucked into jet engines.

Her chief contribution was to develop a new methodology for the identification of bird feathers. As a result of her work, airports took steps to discourage certain species, and engine manufacturers made appropriate adjustments to their products.

In October 1960 a Lockheed Electra aircraft taking off at Logan Airport Boston ran into a flock of Starlings, many of which were sucked into the engines; 42 people were killed when the plane crashed. In November 1975 a DC-10 leaving JFK at New York caught seagulls in its engines; the 139 passengers and crew survived after the take-off was aborted, but the aircraft caught fire and was destroyed. Two months earlier, a flock of Canada geese had brought down a US Air Force radar plane in Alaska, killing all 24 crew.

Working with the tiniest of fragments - often charred or mutilated feathers - they identified the birds and built up data that could be used in preventive action; it was Laybourne who identified starlings as the culprits in the Boston disaster. The manufacturers were soon strengthening their fan blades while the military introduced stronger fighter canopies to cope with bird strikes.

As her expertise became more widely known, she was invited to undertake forensic work for the FBI, helping to solve crimes ranging from murder, robbery and kidnapping to vandalism. She appeared as an expert witness in criminal trials, on one occasion matching fragments of feathers found on a bullet extracted from a dead man with the feathers in his wife's pillow, which has been used as a silencer. ➔



## Dear Diary...

21 July 2023. Today we said a final farewell to the late **Captain Robert Ray** MBE RAN, who died peacefully on 25<sup>th</sup> March at the age of 83.

A snapshot of Rob's extraordinary career and achievements can be seen [here](#).

About 100 people gathered at the Fleet Air Arm museum to remember his service to Australia - particularly his time on the 2<sup>nd</sup> contingent of the RAN Helicopter Flight Vietnam, as recounted by **Max Speedy**.

At the conclusion of the ceremony Rob's ashes were taken to a nearby EC135 training helicopter, which departed for Beecroft Peninsula where, at Rob's request, they were to be scattered at the scene of a [tragic accident](#) he witnessed in June of 1968. In a fitting tribute, this last flight was in the company of a Huey of the Naval Historic Flight, HARS.

We thank 723 Squadron for that service, and for the photographs on the front cover and to the right.

Rest in peace, Rob. Your duty is done. ➔







Illustration: Marcus Peake

by Arthur Johnson

Around 55 years ago, after graduating from 61 Pilots Course, I was sitting quietly in the 724 Squadron crew room dreaming about my imminent conversion to our brand new S2E Grumman Trackers.

I had made the leap from "Looker" to pilot, and while waiting for the Tracker OFS we were having a ball flying Vampires as some of the less fortunate in the squadron were being checked out in the old "Gooney Bird", the venerable DC3.

The pie wagon had just departed and I was sitting in the crew room waiting for my meat pie to cool down a bit before taking the first bite.

In strolls Lt **Winston James** and says "Johne, I want you to go and sit in the right hand seat with Wally (Sub Lt **Wally Gascoigne**) while he does some short take offs and landings, I've just checked him out."

"S...t Winston" I say, "I'm not checked out on the Gooney, I've only done a couple of flights up front before."

"Don't worry about it" says Winston, "Wally will brief you again on how to operate the landing gear, that's all you need to know."

So, reluctantly putting my still warm pie into my flying suit pocket, Wal and I wander out to the Gooney. Wal gives me the spiel and refreshes me about how to pull the gear up when he gives the appropriate command. (It's a tiny bit more complicated than an ordinary aeroplane and normally a copilot job). He starts the

engines, gets a taxi clearance and we trundle the short run out to the threshold of runway 26.

As I understood it (after the event), Winston had briefed Wally to have brakes hard on, slowly put full power on both engines, look down to the left undercarriage wheel just to check brakes were holding, release the brakes and Bob's your uncle.

Unfortunately Wal missed the bit about not moving the yoke forward while this was going on. My guess is it was inadvertent and probably easy to do with the body twisting motion and looking out and down towards the left wheel. In an instant I can see concrete outside the windscreen instead of the centreline of 26. Pieces of propellers and chips of that concrete are going in all directions and both P&W 1830s are shaking themselves to bits.

Wal quickly closes the throttles and shuts the screaming engines down. For a moment we are at a 60° tail up angle with the nose resting on the concrete.

The tail slowly falls back to the hardstand with a mighty thump. Wally slumps forward and everything goes quiet.

I say something like "F..., that was exciting mate" and then we wander back through the fuselage, open the door and jump to the ground.

For some reason Wal was lagging behind

me on the walk back to the hangar, perhaps he was dreading the next bit of the saga. Winston meets me instead of Wally about half way from the crew room to the 26 threshold and says "What happened Arthur?"

I says "F...d if I know, I was eating my pie at the time"

You can imagine Winston's reply to that flippant remark, so I won't repeat it here.

In hindsight I realise that was a mistake. I must learn to control my tongue one day.

A few months later Commander (Air), Norman Lee, if my memory serves me correctly, calls me in and informs me there is some red ink on my S206 and he is obliged to read it to me. It goes along the lines of:

"There has been an investigation into the

accident of DC 3 800 (without any input from me I might add) and as Lt. Johnson was the senior officer, he was the captain of the aircraft and therefore should have both anticipated and prevented the left hand seat pilot from moving the yoke forward while stationary under full power."

55 years later I still manage a smile at having to take the rap for that one, but I guess that at least it gave me the dubious honour of being a front seat Gooney captain without "actually" being one.

Oh well, at least they saw through my meat pie excuse!

Wally of course was a great guy with a wicked sense of humour and went on to be a top notch FAA and civvy pilot.

RIP Wally. ➔

[See great video by Wally [here](#)]

*Do you have a little anecdote like this to tell? People love reading them, and it will keep your story alive for future generations. Send it to the Editor [here](#). ➔*



This aircraft crash back in the day set in place a chain of events that resulted in an aviation legend. Why did it crash, and what were the events? Email your answer [here](#). ➔





Last month's Mystery Photo was a bit of a novelty...a flying canteen! We asked readers what the aircraft was, who built it and where it was photographed.

Actually, although we knew it was a non-airworthy dog's breakfast, we breached the old maxim 'never ask a question if you don't know the answer.' Fortunately **Ted Goater** came to the rescue.

It's American Airstream caravan (see inset, below) with a gash radial engine and set of wings bolted on - all set up as a novelty pop-up café. If you want to drop by for a coffee you will need to take a trip to Thailand though, as it is located at Singha Park, Mae Kon Subdistrict, Chiang Rai. ➔

**Opposite Page.** The Mystery Photo cafe featured above is a mash-up of various aeronautical and non aeronautical bits, but there are plenty of cafes around the world which use real aeroplanes as their gimmick. Here's a selection.

➊ Closest to home is probably the DC3 parked in the centre of Taupo, NZ. ➋ Offering a cut above that, in terms of ambiance and meal quality, is "Hawaii Adda" in Ludhiana, India, which uses an ex Air India A320 to serve their mostly vegetarian menu. ➌ Possibly the most dodgy of the selection we found is this cafe in Costa Rica, which boasts an abandoned C-123 Fairchild. Reportedly it was one of two being used for gun-running but its other half got shot down over Nicaragua in '86. ➍ The largest cafe we know of is the aptly named Cafe 747 in Bangkok, which went to the trouble of cutting an ex-Thai Jumbo into eight transportable bits before relocating them to the city. ➎ This old B707 just outside the city of Nablus, in Palestine, was awaiting conversion to a cafe. We are pleased to say the finished product looked a lot better than when they started, and is reportedly now doing OK as an aeronautical experience for the 99% of Palestinians who have never set foot in an aeroplane. ➏ Another Thai airplane cafe, just outside of Bangkok, which seems to be having a bob each way on their theme(s) as they feature aircraft, a playground inspired by Niagara Falls and "cute teddy bears". Take your pick! ➔





# 50<sup>th</sup> Anniversary

**On Friday 18<sup>th</sup> August 2023, the Department of Veterans' Affairs will be conducting a commemorative service at the Australian Vietnam Forces National Memorial (in Canberra) to mark the 50th anniversary of the end of Australia's involvement in the Vietnam War.**

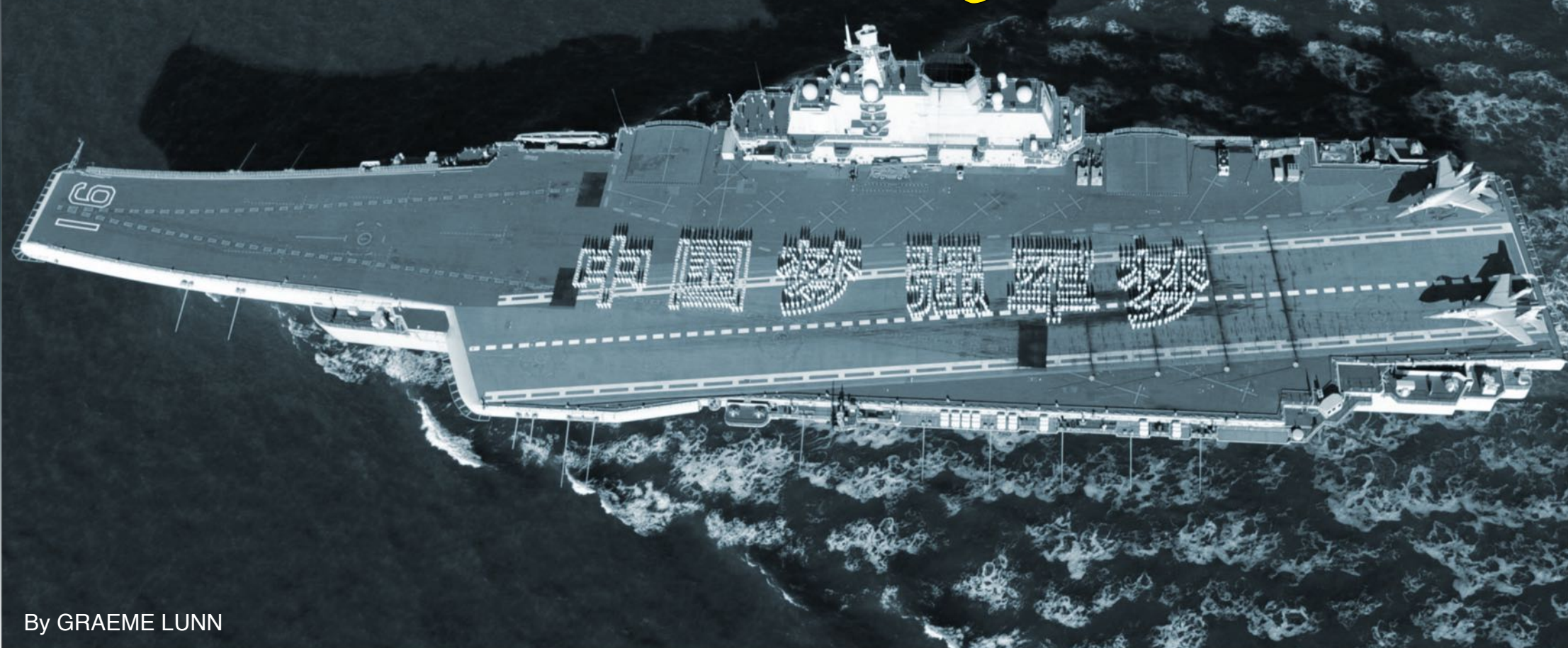
Given this date is fast approaching, we thought it prudent to provide you with an update in regards to planning arrangements for the service. Further information regarding both the service, and medallion, is available [here](#). ➔



*Click on this image to  
Register to Attend.*



# Carrier Art



By GRAEME LUNN

A decommissioned *Melbourne*, stripped of all electronics and weapons, was purchased for scrap by the China United Shipbuilding Company. Towed to the People's Republic in June 1985 she still had her steam catapult and arresting gear in place. *Melbourne* was, at 20,000 tons, the largest warship People's Liberation Army naval architects had been able to study up until that point. With a 'not-so-secret' desire to emulate western naval aviation they promptly removed the flight deck and other equipment to create a trials and training dummy deck ashore, while reverse engineering a steam catapult and landing system.

The first PLA Navy Surface Force aircraft carrier *Liaoning* was commissioned as a training vessel in 2012. Having failed to purchase the French *Clemenceau* the Chinese had acquired the hulk of a Russian Kuznetsov-class carrier in 1998.

Totally rebuilt, the 60,000 ton *Liaoning* was upgraded to combat-ready status in 2019. She has now been joined by the domestically constructed 70,000 ton *Shandong* and the recently launched 80,000 ton *Fujian*.

When the *Liaoning* was photographed with the six mandarin characters 中國夢 強國夢 for 'Chinese Dream' spelt out with sailors on her flight deck it became worryingly clear that the PLA had, while assiduously learning all they could about western carrier operations, discovered the arcane tradition of carrier art. It is a most commendable effort, with the choice of time of day giving shadows to highlight the white uniformed ranks and the carrier herself.

A flight deck is a navy's metal canvas that has been used for carrier art since at least the 1930's. Most often using the ship's company to spell their ship's name a wide variety of messages have been seen over the decades -

ranging from **G'DAY SYDNEY** on a visiting US carrier to **ENGLAND EXPECTS** on an RN carrier during the football World Cup. In the Australian FAA the earliest examples so far discovered were in 1953, on *Vengeance* and *Sydney* respectively.

HMS *Vengeance* had commissioned in January 1945 and joined the British Pacific Fleet in Sydney that July. Commissioned HMAS in November 1952 she arrived back in Sydney in March 1953. Initially *Vengeance* continued the carrier art tradition with the expected **VENGEANCE** in simple capital letters. The composition though was given greater gravitas by using double ranks and a splendid park of eleven aircraft forward and twelve ranged aft.

The next year, escorting the new Queen aboard the SS *Gothic* on her Australian Tour, a very creative Commander used cursive script to sign *Elizabeth R* 1954. Her Majesty sent a signal

complementing *Vengeance* on 'a most original forgery'. In RAN service for only three years, *Vengeance* next became the NAEL *Minas Gerais*. She was the world's oldest active carrier when Brazil eventually retired her in 2001.

Lieutenant-Commander 'Annie' Oakley DFC, CO of 817 Squadron, landed his Firefly aboard **Sydney** for her 10,000th landing enroute to Hawaii in July 1953. The event was marked with a **—10,000—** and the solitary Firefly parked at the bow. It was common to mark these milestones in a carrier's life with sailors forming the numerals although the USS *Intrepid*, which accrued an astonishing 493,000 deck landings in her lifetime, of necessity only marked a few such as the 300,000th. The big USN and RN carriers also had a numbers advantage in creating their carrier art, some efforts seeing over 1100 sailors being used.

When she got to Hawaii at the end of July *Sydney* did a simple **ALOHA** in capitals on her straight flight deck. The highlight of *Sydney*'s art was perhaps the **ANZAC** flanked by a shapely kangaroo and kiwi while heading to New Zealand with a contingent of kiwi service personnel onboard. There is no record of what was used as the background white to these animal renderings.

A newly commissioned *Melbourne* arrived in Australia in the 1956 Olympic Year. After a slow start due insufficient practice she eventually got competitive, becoming quite ornate in her carrier art as befitted the flagship. A cursive *Aloha* on her angled flight deck arriving alongside at Pearl Harbour in June 1958 was certainly appreciated by the local hosts. There is no record of the 10,000th landing being marked but **20,000 LANDINGS**, in a Gannet flown by Lieutenant Ryland Gill, was. Unusually, but artistically effective as a mirror image, the three flanking aircraft forward were parked facing aft by the handlers, creating an artistically effective mirror image.

In 1977, having attended the Spithead Naval Review for the Queen's Silver Jubilee, *Melbourne*'s flight deck composition **SILVER ER JUBILEE** well deserved the colour front page spread Navy News gave it. Three years later, after twenty-five years service, *Melbourne* celebrated the occasion with the **25 YEARS** and **SERVICE** bisected by the calendar years. Both of these mature works of carrier art were framed by the aesthetically pleasing placement of multiple aircraft.

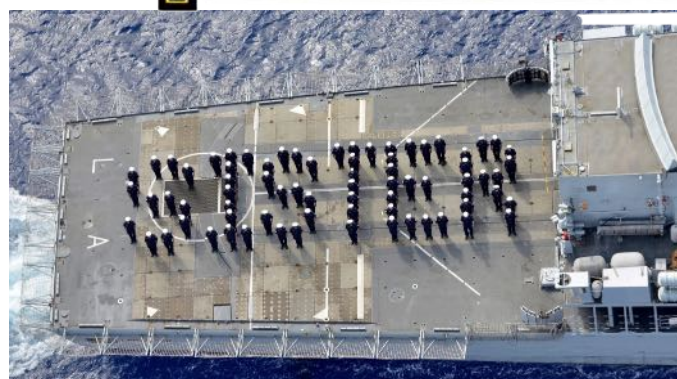




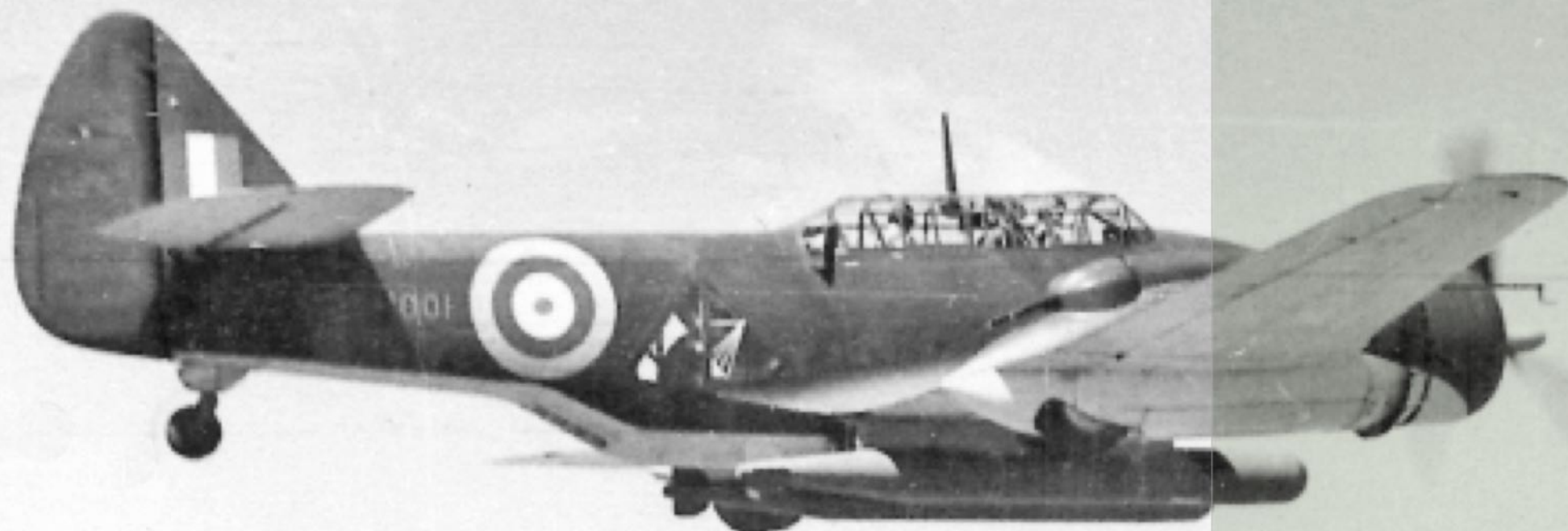
Overseas the carrier art tradition in the new century has occasionally broadened into the more general genre of flight deck art, with commendable efforts on some of the smaller frigate and destroyer flight decks. Have there been any RAN small ship examples? If not hopefully the artistic tradition can be revived and, of course, we anticipate the efforts of the current *Canberra* and *Adelaide* XOs. Their smaller crews make it challenging but, when army and air force are embarked, some tri-service efforts could mark the welcome adoption of a more contemporary colour palette in the chosen composition. ➔



Over the years the various XOs of Melbourne, Sydney and Vengeance have exercised their artistic talents on ships' visits or for special occasions. Small decks don't seem to have engaged in the practice much, with the exception of two RN ships which commemorated the birth of Prince George with an appropriate "BOY" design, and then his sister, Princess Charlotte, with an inevitable, although somewhat spindly, "SISTER". ➔







# TORPEDO TRAINING

HMAS ALBATROSS,  
NSW IS WELL  
KNOWN AS A NAVAL  
AIR STATION, BUT IT  
BEGAN AS A RAAF  
STATION EARLY IN  
WORLD WAR II.

In 1938, in the wake of Sir Edward Ellington's critical report on the state of Australia's defence readiness, Minister for defence G.A. Street announced an expansion program which including construction of coastal airfields at Nowra and Moruya Heads, NSW. A survey was conducted and RAAF Station Nowra, located for its proximity to the naval station at Jervis Bay, was duly constructed and ready by July 1941. However, it was not occupied by the RAAF for almost a year because, just before the Pearl Harbor attack of 7 December 1941, it was decided to upgrade base facilities to handle air dropped torpedoes.

The RAAF's use of torpedoes in the Pacific Theatre was not particularly successful. In 19 torpedo attacks over 15 months before the last on 4 December 1943, RAAF Beaufort bombers produced mostly inclusive results. But it is understandable that the RAAF should pursue a torpedo

capability, given the successes by both sides in the war's early years. The Royal Navy's Fleet Air Arm attack on Taranto Harbour in Italy, and the Japanese attacks on Pearl Harbor and on HMS Prince of Wales and HMS Repulse, were evidence of the torpedo's potential. Such successes were no doubt in the minds of RAF planners when they chose to dedicate RAAF Station Nowra to the training and use of the torpedo.

## BASE TORPEDO UNIT

Base Torpedo Unit (BTU) was formed at Nowra in September 1942 by amalgamating Torpedo Range Section and Torpedo Workshops, which had been functioning there since May. BTU provided torpedo technical and logistic support and training - at least until mid 1943 with the arrival of No.6 Operational Training Unit (60TU). A US Navy (USN) detachment was also involved in BTU torpedo training and maintenance, evidently because the Mk XIII torpedoes used were USN stores. Initial trials conducted from a

satellite airstrip created at Jervis Bay exposed the poor reliability of the complex weapon, despite it being the standard torpedo in the USN inventory. Another problem was that the Mk XIII was 25 percent wider than the British Mk XII torpedo for which the Beaufort's torpedo bay had been designed; special and unique suspension equipment had to be installed. Catalinas, on the other hand, carried torpedoes under their wings and could accommodate the Mk XIII. Both dummy (concrete) and live torpedoes were handled by BTU; the former had to be recovered from underwater following training exercises.

The RAAF's use of torpedoes declined during the war, as their limited effectiveness (guided, in part, by the trials at Jervis Bay) was not considered to be worth the cost and necessary resources. From late 1943, Mobile Torpedo Sections that had been deployed to operational areas (primarily supporting Beaufort and Catalina units in northern Australia and New Guinea) returned to Nowra.

BTU was involved in the development of an Australian built torpedo, but the weapon did not see action. A third aircraft type which might have carried the Mk XIII or Australian torpedoes, had it not been cancelled after only two prototypes were built, was the CAC Woomera torpedo/dive bomber.

Two Torpedo Maintenance Units were briefly based at Nowra: No.1



ABOVE: CAC Woomera with torpedoes.



BELOW: Base Torpedo Unit.



## A PIECE OF RAAF HISTORY

RAAF Station Nowra was formed during the darkest stage of WWII. Invasion appeared imminent and our defences were unprepared, with many assets and personnel deployed overseas.

The airfield was originally intended for dual RAAF/civil use, but wartime activity put an end to the latter. The RAAF in fact chose Jervis Bay as the preferred site for an airfield, but politics intervened. RAAF Station Nowra became one of the largest air bases in Australia, and the only one to conduct air-launched torpedo training and trials.

Station personnel peaked in 1943 at 1,500, including 100 Women's Auxiliary Australian Air Force technicians. Aircraft establishment stood at 36, including 23 Beauforts which were each flying up to 600 training hours a month. Supporting the base torpedo operations were dozens of trucks and fuel tankers, as well as three recovery boats. A multinational base, Nowra involved not only the RAAF

and RAN but also the US Army Air Corps and Navy, the Royal Navy and Netherlands East Indies Air Force.

BTU and No.6 OTU constantly trialled different release heights and speeds in

an unsuccessful attempt to overcome the deficiencies of the Mk XIII torpedo. Striving to improve the operational performance of the system, Nowra personnel visited the Beaufort squadrons fighting on the front line. In the Australian military tradition, they fought with what they had.

All the while, enemy submarines were active off the NSW coast. Nineteen merchant ships were sunk and 10 more damaged, with 214 lives lost. RAAF Station Nowra was the primary staging point for anti-submarine patrols. In mid-1944, the patrol role, begun earlier by RAAF Ansons and Dutch B-25s, was taken over by Kingfisher floatplanes of No.107 Squadron RAAF operating from St George's Basin.

*Cris George*





relocated from Breddan, Queensland for a month in 1944 before disbanding; and No.2 which formed at Nowra but moved to the Northern Territory after just two months. Their tasks were to provision, maintain and store torpedoes, and also to administer mobile torpedo sections.

### 22ND BOMBARDMENT GROUP

In June 1942, the Townsville-based US Army Air Force (USAAF) 22nd Bombardment Group (BG), flying B-26 Marauder medium bombers, sent a detachment from its 19th Reconnaissance Squadron to Nowra for torpedo training. The B-26 Marauder Historical Society records that USAAF Captain Allen, conducting torpedo trials on Perth's Swan River with a B-26, ...wired Melbourne that he was returning to begin instructing torpedo operations at the Anti-Submarine Warfare School established at Nowra. His arrival there was a surprise, as no such school existed, and it was his job to establish it.

Four B-26s arrived at Nowra for a three week torpedo course, after which another eight participated in a second course.

The deployment had been scheduled for 1 June, but a B-26 had crashed at Nowra that day, apparently due to the state of the runway. Interestingly, on 4 June a pair of Hawaii-based B-26s from the 22nd BG had taken part in an unsuccessful torpedo attack on

### JOHN RAEBURN BALMER OBE DFC RAAF

On 18 March 1942, Wing Commander John Raeburn 'Sam' Balmer assumed command of No.100 Squadron, which was equipped with Australian-built Beauforts and the first RAAF squadron to be armed with the USN Mark XIII torpedo.

Balmer's exploits in the South-West Pacific established him as a leader. He was appointed OBE in June. On the night of 25-26 June, he took charge of a strike against a Japanese steamer in New Guinea's Huon Gulf. The assault was carried out at low altitude and pressed with great determination, but a later analysis failed to confirm the vessel's sinking. In October, he led the squadron's torpedo bombers from Milne Bay, Papua on an ambitious 950-nautical-mile (1759km) flight to attack enemy ships sheltering off the Shortland Islands, near Bougainville.

He arrived in England in June 1943 and became commanding officer of No.467 Squadron, RAAF on 18 August. It was a bad time for the squadron; seven of its 21 Lancasters were lost that month. Balmer flew his first operation on the night of 27-28 August in a raid against Nuremberg which cost Bomber Command 4.9 percent of the attacking force. He led his unit against Hanover on 22-23 September and 18-19 October, and against Berlin on 18-19 November and 15-16 February 1944. His next German target was Frankfurt on 18-19 March. Thereafter, the RAF concentrated on pre-invasion objectives in occupied France; Balmer took part in four such strikes in March-April. He was awarded the Distinguished Flying Cross in April for his skill, efficiency and devotion to duty; his promotion to temporary group captain was gazetted on 4 May.

Balmer was known as a sardonic man who was intolerant of fools and of over-conservative authority; his subordinates regarded him as a 'dynamic' commanding officer. On the night of 11-12 May 1944, he attacked a military camp at Bourg-Léopold (Leopoldsburg), Belgium. His aircraft did not return.

*Article by John McCarthy, Australian Dictionary of Biography, Volume 13, 1993.*

the Japanese fleet at the start of the pivotal Battle of Midway.

By 15 July 1942, six planes and seven crews from the 22nd BG arrived for training as torpedo bombers and the unit was named the 1st Torpedo Squadron. Pilots were less than enthused about using the B-26 as torpedo-bombers. They felt the 2,000-pound torpedo slung underneath with only a few inches of ground clearance and operating from typically rough airfields was asking for trouble. In addition, they were eager to re-join their comrades in combat bombing operations.

The crews were not all bored though. The local Nowra newspaper reported:

Yesterday morning when the 'birds' came home to roost, they skimmed the tops of houses in the town, much to the alarm of residents. Among the complaints received at this office,

mostly from womenfolk, are that choice lemons were blown off trees in a garden; another, that the force of the slipstream blew paint off a roof, while a lady, suffering from lumbago, was seen disappearing down an air-raid shelter headfirst.

### NO.100 SQUADRON

Courses in torpedo attack techniques for Beaufort bomber crews began with crews from No.100 Squadron, commanded by WGCDR John Balmer. The torpedo bomber force focused on night employment of the weapon. A Beaufort equipped with air-to-surface-vessel radar would locate the target and illuminate

it with flares, enabling armed aircraft to carry out an attack. Torpedo attack was an exacting art, involving the dangers of low-level flying over water in formation – initially down to 50 feet and at very slow airspeed. A torpedo



### THE GLADIATOR'S SALUTE

The first CO of RAAF Nowra was (then) Wing Commander John M. Lerew RAAF.

As Commander of the RAAF detachment at Rabaul on 21 January 1942, equipped with one Hudson and five Wirraway (only two were fitted with bomb racks), he had been ordered to attack the invading Japanese force of 45 ships and more than 200 aircraft. WGCMDR Lerew is reported to have had some understandable trepidation about this tasking and originated the now famous signal to Air HQ: "We who are about to die salute you". He is recorded to have expressed the 'Gladiator's Salute' in the original Latin.

The response from HQ is not known.

Cris George



✈ ABOVE Torpedo preparation in the open.

✈ OPPOSITE PAGE Technicians and their tools in the BTU workshop.

✈ ABOVE LEFT RAF B-26 Marauder and British Mk XII torpedo ground clearance.

✈ LEFT Moving torpedoes from storage to the workshop



attack was one of the most dangerous combat missions, particularly in the face of the target's anti-aircraft defences.

### NO.7 SQUADRON

In August 1942, No.7 Squadron RAAF began moving from Bairnsdale, Victoria to Nowra under the command of WGDCR John Lerew, famous for his role in the defence of Rabaul, New Britain earlier in the year. The purpose of the move was conversion from Hudson bombers

to Beauforts, with torpedo training an element of the conversion course. Mock attacks were made on HMAS Broome and HMAS Tamworth, and on a rescue launch. Some attacks were made in co-operation with B-25 bombers of the Canberra-based No.18 (Netherlands East Indies) Squadron, which was also supported by Nowra's torpedo facilities. After a month, 7SQN moved north to Townsville for operations against submarines and shipping but executed those missions with ballistic bombs rather than torpedoes.

### NO.73 SQUADRON

On 2 September 1942, the first Avro Anson bombers of No.73 Squadron arrived at Nowra from Cootamundra, NSW to conduct submarine patrols. The threat to Australia's eastern coastal shipping was very real. Not only had Sydney Harbour been attacked by Japanese submarines

in May, but during the first half of 1943 eleven ships of various nationalities were sunk and another half dozen damaged. Even a German U-boat was posing a threat along the eastern seaboard.

Some of 73SQN's search flights were in response to sightings of enemy submarines, or actual attacks. On 11 April 1943, FLGOFF Jim Swan and crew watched as a merchant ship disintegrated from a torpedo attack.

### NO.6 OTU

No.6 Operational Training Unit (OTU) formed in June 1943 at Nowra to continue training Beaufort bomber crews in torpedo attack

## FORGOTTEN BASE

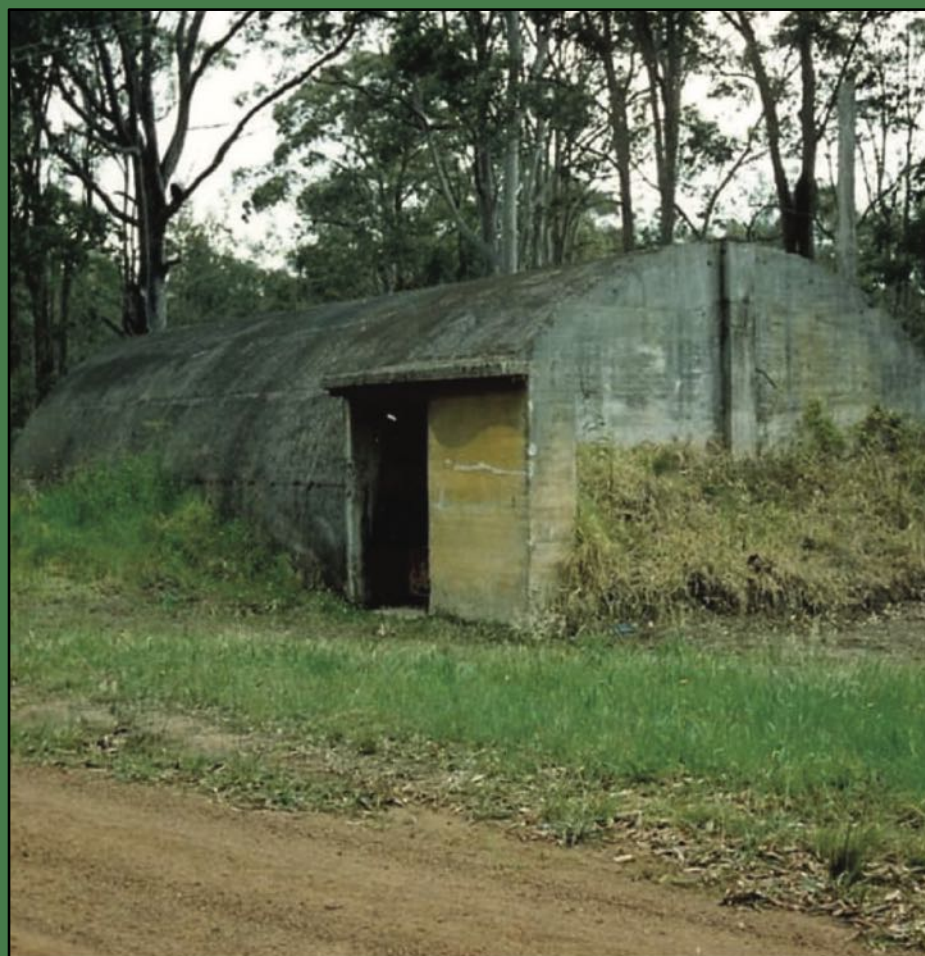
Today nine bunkers and other buildings, including the generator house and torpedo workshop, remain on the northern side of BTU Road. They stand as relics of a desperate time in our history, but are unacknowledged and closed to public access.

The many torpedo storage and workshop facilities were widely dispersed, in order to minimise damage in case of an explosion. They take up much of the present-day length of BTU Road between the Princess Highway and Nowra Hill.

Three or four bunkers, presumably for storage of live torpedo warheads, remain on private land on the south side of the road. Other structural relics include: a wireless telegraphy and direction finding station on the corner of Cabbage Tree Lane and Albatross Road; a weapon pit west of HMAS Albatross airfield; and a bunker south of the threshold of runway 08.

Recently, Shoalhaven City Council's Local Environmental Plan listed the torpedo workshop and a bunker as heritage sites. Although no monument to RAAF Station Nowra exists, a memorial to RAAF, RAN and RN service personnel killed in training at Jervis Bay has been established behind Jervis Bay Maritime Museum. RAAF accidents claimed over 30 lives, primarily Beaufort crewmen with No.6 OTU.

Cris George



ABOVE. A surviving RAAF torpedo storage bunker south side of BTU Road.



techniques, and to co-operate with BTU in trials. It aimed to train 18 aircrews per month, plus ground crews: 20 Fitter IIE(T) torpedo ground specialists every six weeks, as well as Aircraft General Hands (Torpedo) every three weeks. The Chief Ground Instructor and many other personnel were from the US Navy. Peak personnel strength was 570 officers and men. By the time the unit disbanded in April 1944, 120 Beaufort crews and 300 technicians had been trained.

### ACCIDENTS

A number of aircraft crashed in the Nowra area during the war. Three accidents came in just two days, 9-10 March 1942, involving P-40 Warhawks of the 49th Fighter Group USAAF: two forced landings in fields, the third an accident just after take-off in which an 18-year-old girl and her horse were killed. Then in October, a RAAF Beaufort lost a propeller and crashed on landing. Jervis Bay also saw a number of crashes including eight RAAF Beauforts which came down in or near the bay.

The most infamous crash, due to it being caught on film by war correspondents, was a mid-air collision of two Beauforts on 19 April 1943. At completion of practice torpedo attacks on HMAS Burra Bra, they made a low, fast pass and climbed to start a 'Prince of Wales Feathers' formation routine (a climbing 'bomb burst'). A wing of one Beaufort severed the tail of another

and both aircraft plunged into the bay with eight fatalities.

### WAR'S END

As torpedoes were no longer a RAAF weapon, control of RAAF Station Nowra was transferred to the Royal Navy's British Pacific Fleet on 15 September 1944, and it briefly became HMS Nabbington. BTU continued torpedo support, now for the carrier-based RN Fleet Air Arm Avenger torpedo bombers. On 31 August 1948, HMS Nabbington became HMAS Albatross, and home to the newly formed RAN Fleet Air Arm.

But the RAAF was not yet done with Nowra. In 1952, the RAAF element of the Australian Joint Anti-submarine School formed there, with Lincoln and Neptune aircraft training in submarine surveillance.

In 1986, the school was renamed Australian Joint Maritime Warfare Centre.

Michael Nelmes, compiled from material supplied by CAPT (R'td) Cris George and RAAF Historical records.

*Click [here](#) for brief footage of the tragic collision over Jervis Bay of the two Beaufort bombers.*



TOP. BTU technicians posing for a group photo during a smoke break.

ABOVE. MK XIII Torpedoes on the BTU assembly line.

Reproduced with the kind permission of [Wings magazine](#). ➔



# The Last Days of the Tirpitz

By Marcus Peake

By late 1944 Vice Admiral Henry Moore's assessment of the futility of further seaborne attacks on *Tirpitz* was widely shared. Dozens of ships and hundreds of aircraft had been committed to the task for more than two years. They had struck her, to be sure, but the target remained afloat and seemingly indestructible.

Simply put, the fickle weather and robust defences only offered fleeting opportunities to attack the ship; and when they occurred they demanded weapons capable of destroying, rather than simply damaging her. A change of tactics was required.

By August of 1944, when the last Fleet Air Arm aircraft landed after Operation Goodwood IV, Britain had such a weapon in its arsenal. Designed originally to penetrate reinforced concrete, the 12,000 lb Tallboy 'earthquake' bombs had proven effective against a range of high-priority targets including U-boat pens and underground railway tunnels. The

experts were confident they could also penetrate *Tirpitz*'s armoured decks, or overwhelm her with near misses.

On the 11<sup>th</sup> and 12<sup>th</sup> of September 1944, 39 Lancasters of 617 and 9 Squadrons, accompanied by 2 Liberators and a Mosquito, took off from the UK bound for Yagodnik, in Russia. The airfield was 2,100 miles from Lossiemouth but only 680 miles from *Tirpitz*, and it had good approaches with a 1600 yard grass runway suitable for the heavy bombers.

Just the journey to Yagodnik would fill a book of stories. The weather closed in close to the destination, with one Navigator remarking 'it was like a scene from a Hollywood horror movie with tips of pines sticking up through a sea of mist'. The country was desolate - lakes, forests and swamps. One pilot recalls smoking 40 nervous Player cigarettes while his Navigator laboured to guide him.

## An Expensive Weapon

Tallboy bombs were largely hand-made, requiring much labour during each manufacturing stage. The materials used were costly, with precise engineering requirements in casting and machining. To increase penetrative power, a large, specially hardened steel plug had to be precisely machined and mated to a recess in the nose of the bomb. The casing had to be perfectly symmetrical to ensure optimum aerodynamic performance. This was no easy task when manipulating a bomb the size and weight of a Tallboy.

The Torpex filling was poured by hand into the base of the upturned casing after melting it in "kettles". The final stage of explosive filling required a one-inch layer of pure TNT be poured over the Torpex filling, followed by sealing the base with a 100 mm layer of woodmeal-wax composite with three cylindrical recesses fitted with the explosive boosters and into which three chemical time-fuses were inserted when the bomb was armed.

Tallboys were not considered expendable, and if not used on a raid were to be brought back to base rather than safely jettisoned into the sea. The value of the weapon offset the additional risk to the aircrew. Given their high unit cost, Tallboys were used exclusively against high-value strategic targets that could not be destroyed by other means. ➔

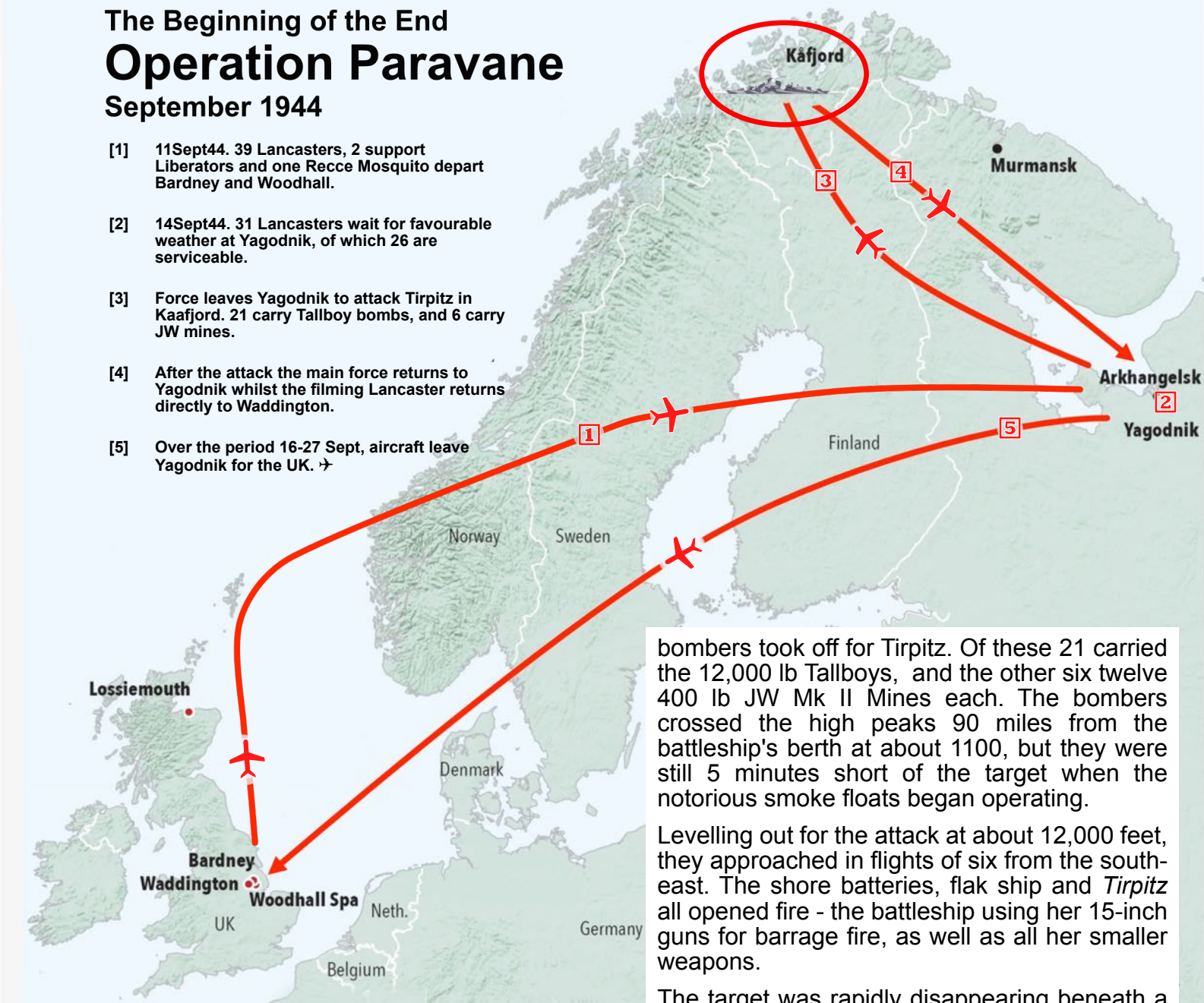


Main picture: Stunned rescuers gather on the upturned hull of *Tirpitz* shortly after the raid. Nearly 1000 young sailors lost their lives in the attack. Eighty five lucky ones were retrieved by cutting holes in the hull. ➔



## The Beginning of the End Operation Paravane September 1944

- [1] 11Sept44. 39 Lancasters, 2 support Liberators and one Recce Mosquito depart Bardney and Woodhall.
- [2] 14Sept44. 31 Lancasters wait for favourable weather at Yagodnik, of which 26 are serviceable.
- [3] Force leaves Yagodnik to attack Tirpitz in Kaafjord. 21 carry Tallboy bombs, and 6 carry JW mines.
- [4] After the attack the main force returns to Yagodnik whilst the filming Lancaster returns directly to Waddington.
- [5] Over the period 16-27 Sept, aircraft leave Yagodnik for the UK. →



bombers took off for Tirpitz. Of these 21 carried the 12,000 lb Tallboys, and the other six twelve 400 lb JW Mk II Mines each. The bombers crossed the high peaks 90 miles from the battleship's berth at about 1100, but they were still 5 minutes short of the target when the notorious smoke floats began operating.

Levelling out for the attack at about 12,000 feet, they approached in flights of six from the south-east. The shore batteries, flak ship and *Tirpitz* all opened fire - the battleship using her 15-inch guns for barrage fire, as well as all her smaller weapons.

The target was rapidly disappearing beneath a smokescreen, and 'the black matchstick' was hard to see. Some bomb aimers only caught a glimpse of their target, or just the superstructure. Five of them decided not to waste their precious weapons. Ultimately only 16 out of the 21 Tallboys were dropped, and the squadron flew back to Yagodnik for fuel before returning to England. No aircraft were lost over the target, but one struck high ground on the return flight with the loss of eleven men.

The smoke that obscured the target also denied clear evidence of any hits, but the aircrew were confident of at least one. Gradually, over the next few days, intelligence from photo-recce aircraft and the Norwegian resistance filtered in. *Tirpitz* had been hit in the bows.

Eight days later, the British concluded " *Tirpitz* received, almost certainly, one hit forward by a 12,000 lb bomb. She may have also been damaged by near misses."

Most crews could not pick up the radio navigation beacon. One Liberator landed "at a horrible little field" which bore no resemblance to Yagodnik. It turned out to be Kegostrov Island, some 12 miles from the destination. Five other Lancasters landed there, with one damaged beyond repair whilst avoiding a galloping horse as it touched down. Others crash landed elsewhere, with a total of six Lancasters being written off.

For the next three days it poured with rain whilst the aircrew struggled to keep occupied. They were billeted on a rickety paddle steamer inhabited by a venomous selection of insects who assaulted everyone except the Section Commander. The other aircrew were impressed that 'Commie bugs' respected rank.

On 15 September 1944 the weather had cleared sufficiently for the strike and 27



**Above.** 15Sep44. An Avro Lancaster flies towards the target (circled) in Kaafjord as a colossal smoke screen is belatedly released by the German defenders. The approach was from the south west, with the bombs released about 2500 metres from the target, as indicated on the inset map at "B". This also shows the old anchorage (A) which the Fleet Air Arm had attacked during earlier, unsuccessful operations. →

Over the coming days, more definitive information was received. A Norwegian report stated that "*Tirpitz* had received a direct hit on the starboard side which made a hole from the bow 17 metres long".

A German document found after the war could have set the minds of the British at rest. A Tallboy bomb had struck the main deck forward of the anchor cables, passed through the ship at an angle and detonated close to the starboard side causing a rent about 50 feet long. The report concluded: "It is estimated that repairs, if they can be carried out without interruption, will take at least 9 months."

It was eventually decided at a conference on 23 September 1944 at which the German C-in-C and Naval Staff were present, "...that it was no longer possible to make the *Tirpitz* ready for sea and action again . . ."

The Germans made the decision to move *Tirpitz* to a shallow berth where she would act as a floating battery, and after some careful hydrographic work she was transferred under her own power on the night of 15 October 1944 to a mooring off Håkøya Island, near Tromsø, Norway.

It was a crucial decision. Tromsø was 200 miles closer to the UK and was within direct range of the bombers - just. It was to be the final chapter in the story of the Beast.

Attacking *Tirpitz* via Russia had been both expensive and time-consuming. Three dozen



**Middle.** One of the Lancasters which landed at Belomorsk instead of Yagodnik. The undercarriage collapsed on the rough wooden planking of the airstrip, although the crew were uninjured.

**Lower.** Another Lancaster at Kegostrov after a landing mishap. This aircraft was subsequently repaired by the Soviets and flew again with Russian markings. →



# The Final Chapters

## Operations Obviate & Catechism

October & November 1944.

**Operation Obviate.** 29 October 1944. 36 Lancasters of 9 and 617 Squadrons fly a round trip of 2,250 miles to strike *Tirpitz* in Tromsø Fjord, in Norway. As the aircraft arrive the target is obscured by bad weather, and no hits are achieved, although a near miss damages the port propeller shaft. One Lancaster is struck by flak and makes a crash landing in Sweden.

**Operation Catechism.** 12 Nov 44. 18 Lancasters from 617 Squadron and 13 from 9 Squadron again fly to Tromsø. This time the weather is clear and in the space of about eight minutes she receives three direct hits and six near misses from Tallboy bombs.➔



*Tirpitz at anchor next to Håkøya Island in Tromsø Fjord, in the final days of her life. She was moored in shallow water and additional sand added under her keel to ensure she could not sink. The Germans knew more attacks were inevitable but hoped the approaching winter, with virtually no daylight, would offer protection.➔*

long Norwegian winter set in, when almost perpetual darkness would shroud the vessel. Accordingly, the British wasted no time.

### Operation Obviate

On 29 October 1944 thirty-six Lancasters of 671 and 9 Squadrons carrying 12,000 lb Tallboy bombs departed from airfields in Scotland for the long flight north. Another Lancaster from 463 Squadron accompanied the force to take photographs of the raid.

The heavy bombers flew low level over the sea before making a sharp turn across the coast of Norway where the RAF had found a gap in the enemy's radar coverage. The rendezvous point for the raid was Lake Tornetrask, which required

## What the Brits Didn't Know

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Although British intelligence were sure that *Tirpitz* had been struck by a bomb in Operation Paravane, they were uncertain of the extent of the damage. In fact it had crippled the ship beyond any hope of practicable repair.

A post-war interview with Konter-Admiral Peters, who was on board during the strike, reports:

*"TIRPITZ received one hit and/or one near miss about 3 metres (10 feet) off the starboard side forward, which blew away about 40 metres (132 feet) of the fore-end of the ship underwater and forced up the decks above the water line."* (Peters had no real evidence of two bombs falling close together, but said that it was officially considered that one bomb would not have caused such extensive damage).

*"All the ship forward of station 203 was wrecked and flooded and ship trimmed about 1 metre (3.3 feet) by the bow. In all about 1500 tons of water [was] admitted to the ship and the mean draught as a result of the damage increased approximately from 10 to 11 metres."*

*Appreciable shock damage was received, most of the visual range-finding instruments being out of action. Steering gear was intact but the main machinery had to be overhauled and took 8 days to make serviceable. Only the auxiliary machinery was seated on special resilient mountings, and this was unaffected. There was also a certain amount of whipping since, although the masts were undamaged, the aerials were broken.*

*The whole of the stem was "hinged" on the port side and temporary stringers were welded in on the starboard side to stiffen up the structure."*

The crippling damage meant that *Tirpitz* could not venture into the open sea as a viable fighting unit, but the British didn't know that and still regarded her as a significant threat. The attacks would continue. ➔

the force to violate neutral Swedish airspace, but this facilitated an attack from the south east, which would not be expected by the Germans.

But luck was not to favour the attackers. Although the weather on the approach to Tromsø was fine, the surrounding area was obscured by cloud before any of the Lancasters could see the target.

Despite this, most aircraft dropped their bombs - some of them making four or five approaches in an effort to see the target. No close hits were recorded, although one weapon did damage *Tirpitz's* port propeller shaft.

Two aircraft were hit, with one losing so much fuel that its captain decided they could not make the alternate airfields of Yagodnik or RAF Sumburgh (in the Shetland Islands). Instead, he crash landed in a bog in central Sweden to avoid capture by the Germans. The crew were

uninjured and were eventually repatriated back to the UK.

### Operation Catechism

The crews who had flown for over thirteen hours were disappointed in the result, but did not have long to wait for another chance. Operation Catechism, which was virtually a mirror image of Obviate, took place two weeks later.

*Tirpitz's* defences had been improved in that time, with additional anti-aircraft guns and torpedo nets positioned around the ship. The smoke generators which had protected her so well at Kaafjord were still not operational, however, although seven fishing boats fitted with smoke generators were positioned at the mooring. These were not capable of completely obscuring the ship.

Most worryingly, a force of German fighters was transferred to Bardufoss to bolster air defences. The Squadron was, reportedly, disorganised following its retreat from Soviet forces and most pilots were inexperienced and ill-trained. Its temporary CO, Major Heinrich Ehrier, arrived at the unit on 9<sup>th</sup> November, just three days before the Lancasters struck, and was engaged in trying to train his Squadron.

*Tirpitz* fired the first shots of the battle at 0938

**Left.** All that remains of the Lancaster "Easy Elsie" that crash landed in 1944 in Sweden. The crew survived and were repatriated to the UK.➔



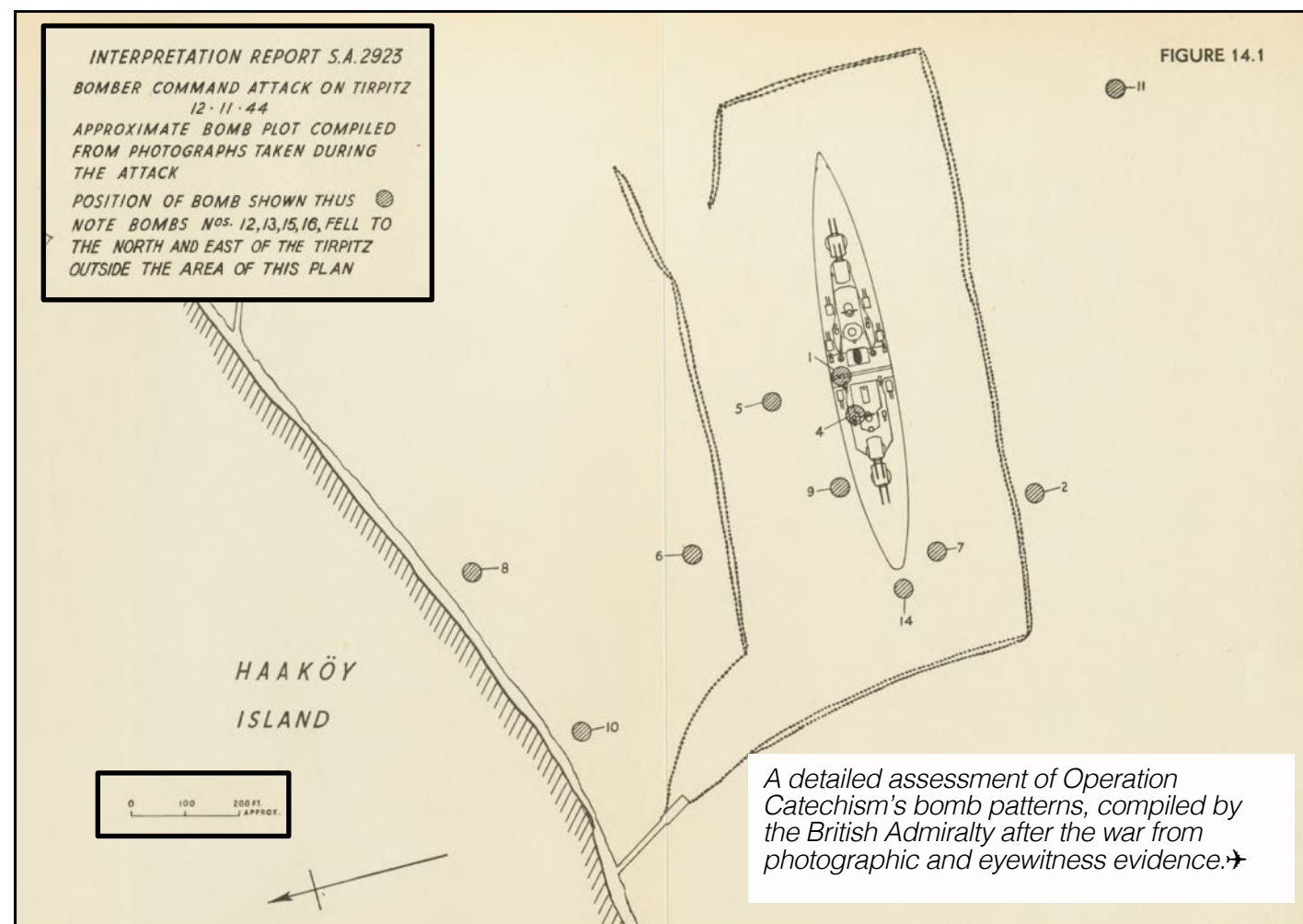


John P. O.



Although both Operation Obviate and Catechism were filmed from a dedicated Lancaster, the images are very poor. This painting, which was owned by 'Dambusters' veteran Les Munro, gives a much better impression. It shows a Lancaster releasing its bomb as it approaches Tirpitz. The image is signed by notable wartime bomber command crew members including Leonard Cheshire. Regrettably, we don't know the artist's name. ➔





as the bombers approached from the south. The weather over the target was clear and the ship was in plain view.

WGCDR Tait, leading the force, was the first to drop his Tallboy just three minutes later. The rest of the Lancasters followed, with the last weapon being dropped at 0949. By this time *Tirpitz* was on fire and covered in smoke.

The battleship received two direct hits and five estimated near misses. In a detailed report compiled after the war, numerous witness statements provided the following picture:

"...the first bomb to hit the ship struck her almost amidships, and this was quickly followed by a second hit abaft and to port of 'C' turret; this latter bomb started a fire,

Immediately after being hit, the ship, which had previously had a slight list to starboard, took on a list to port, and considerable damage was done to the ship's side, but owing to the number of casualties (1000 out of 1900 crew on board at the time of the attack), shock, and the rapidity of events, no clear-cut picture was available as to the exact sequence of events, or damage sustained. Informants stated, however, that the bomb hits pushed the armoured decks downwards and opened a gap between the side

of the ship and the decks. Twenty minutes after the first hit, an explosion occurred, and the cumulative damage tore a hole 120 feet long on the port side of the ship from deck to keel. The ship very shortly afterwards turned turtle to port, rolling through approximately 140°, with the superstructure embedded in the sea bottom. The main armament was in action during the attack, but the informants could not say whether the explosion took place in the turret, or in the magazine. They did, however, say that events were too rapid for the crews to open the turret doors,

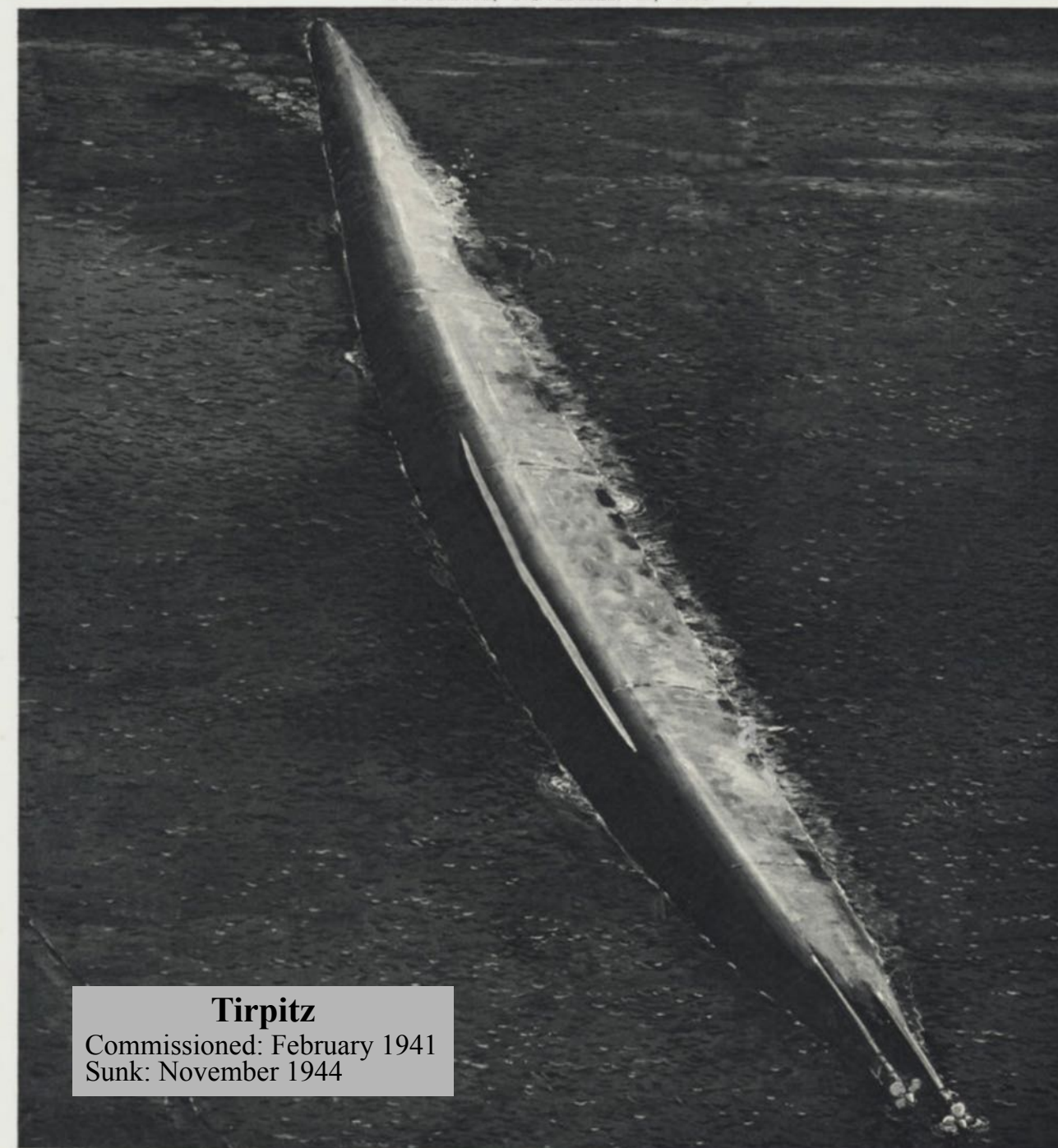
Rescue work was immediately put in hand, and in the first 24 hours 85 men were saved through holes cut in the bottom of the hull, but these operations were given up after 48 hours. Further holes were, however, cut later to salvage the fuel oil from the ship."

The assessment of who did what, and what actions might have changed the outcome was all in the future, however. As the last bomber turned for home on that crisp morning of 12 November 1944, only one thing mattered to the weary crews: *Tirpitz*, who had occupied the attention of thousands of men and hundreds of ships and aircraft during her four-year existence, had finally been put to rest. The Beast was Dead. ➔

# THE ILLUSTRATED LONDON NEWS

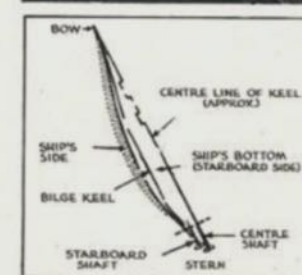
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SATURDAY, NOVEMBER 25, 1944.



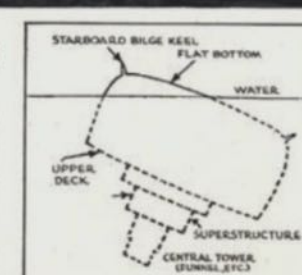
## Tirpitz

Commissioned: February 1941  
Sunk: November 1944

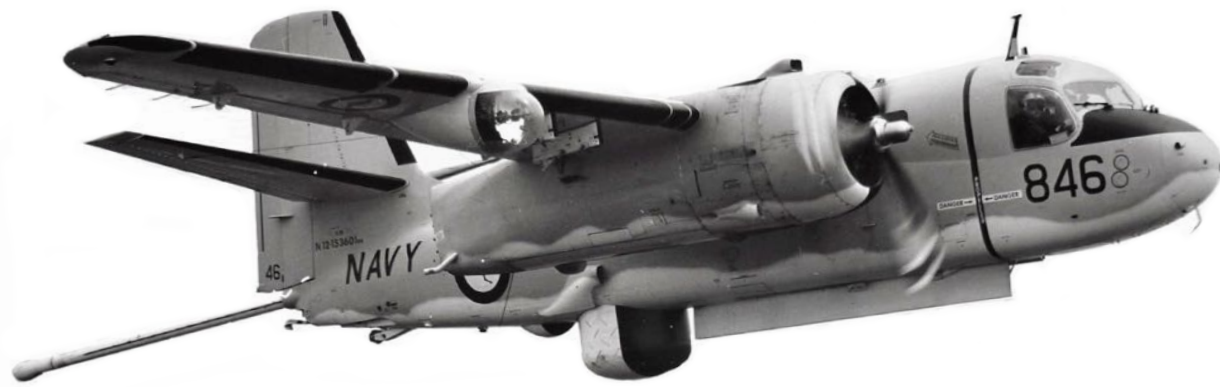


THE "TIRPITZ" AFTER BEING SUNK BY R.A.F. BOMBER COMMAND, AS SHOWN IN THE OFFICIAL PHOTOGRAPH: THE LAST OF GERMANY'S GREAT BATTLESHIPS LYING CAPSIZED IN TROMSØ FJORD.

AT 10.30 a.m. on Sunday, November 12, the first of three 12,000-lb. bombs hit Germany's last great battleship, the 45,000-ton "Tirpitz," anchored in Tromsø Fjord. The "Tirpitz" received two other direct hits with 12,000-lb. bombs, and within a quarter of an hour of the launching of this attack by twenty-nine Lancasters of R.A.F. Bomber Command, the "unsinkable" battleship was on fire and already heeling over. All that remained of the "Tirpitz" when reconnaissance aircraft flew over her later was what can be seen in the above picture—part of her bottom and starboard side. The reason why the battleship did not completely turn turtle is believed to be that her control tower and upper works (see diagram on right) could not clear the sea bed in the comparatively shallow anchorage of the fjord.







## NOW, HERE IS THE CHALLENGE

The forthcoming book on the RAN's A4 G Skyhawks will, aside from giving its readers much pleasure, cement into history many stories of those who flew and maintained them. That's pretty important, considering we are all getting on in years and, as we fall off the perch one by one, they would have been lost forever.

But what about the other classic aircraft of the RAN? The Tracker, Wessex and Sea King come to mind, but any of our old veterans will do. There are still a lot of folk around who remember each of them with varying degrees of affection or otherwise.

For example, doing yet another engine change on a Wally in a draughty old hangar in winter was never much fun, and the subsequent full power test with strops to hold it to the earth was simply terrifying. So too was trusting a less-than-competent AFCS to plunge you towards the ocean on a dark night, to look for a submarine you knew wasn't there.

But there was nothing better than flying stations on a crisp morning with the sun coming up over the horizon and the ship's wake arrow-straight on a sea of molten gold. It's why we all did what we did, and enjoyed the hell out of it.

So, the challenge is this: will anyone do for our other old birds what **Peter Greenfield** and **David Prest** have just done for the Skyhawks? The glove has been thrown down, for sure, but it also means the path has been trodden, if you'll excuse all the metaphors. There's advice and help available every step of the way.

Are you willing to have a go? It won't cost anything other than some of your time bringing back a wealth of memories and experiences, and a warm fuzzy feeling that you are building something for future generations to share too. Click [here](#) to register your interest. ➔



## FlyBy Delivery Change

You will have noticed that this edition of *FlyBy* has been delivered to you in a different way, being through a 'Flip Page' format rather than accessed through our website.

This positions the magazine for what may be a major change in its distribution policy. There will be more about that in forthcoming editions.

The 'archive' copy will be added to our *FlyBy* website library one month in arrears, so, for the moment at least, the only practicable link to this edition is via the email you were sent on 01<sup>st</sup> August.

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In the meantime, we would be keen to hear from anyone who has any views on the change, good or bad. Please submit your thoughts [here](#).