

ISSUE 69



# CONTACT

LAND & SEA

MARCH 2021

AUSTRALIAN MILITARY MAGAZINE



## BASIC WEAPONS OF 6RAR





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## EDITORIAL

Issue 69 – March 2021

# CONTACT

AIR, LAND & SEA



### WEAPONS OF 6RAR

Photo by Corporal  
Brodie Cross

Starts page 20

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appropriate.

There have been some massive news stories in the CONTACT-interested  
space recently – most notably that the Army has decided to ditch ARH  
Tiger helicopters in favour of Apache AH-64E Guardian. And, not only are  
we swapping out the French chopper for the Yank, but we're getting seven  
more than we started with too.

But, this announcement came as a real spit-coffee-at-computer-screen  
moment for me, not only for the huge, much wished-for news itself, but  
also for the fact it was disguised under a totally banal headline, seemingly  
deliberately designed to play down the incredible significance.

Anyway, we've managed to pull a decent spread together, starting on  
page 34.

Before you get to that, though, there's a brief spread on Army's biggest  
ever equipment purchase – or, more specifically, the battle to see which of  
two contending infantry fighting vehicle designs will be fielded, starting  
around 2026.

Up to 27billion (yes, billion with a b) of taxpayer dollars will see a fleet  
of about 450 armoured and tracked monsters built here in Australia  
before rolling out to brigades around the country – and transforming the  
structure of the mainly infantry battalions who will operate them.

If you need a refresher on how this is likely to work, see our Plan Keogh  
feature, starting on [page 52 in CONTACT Issue 57](#).

Before you do that, however, take a quick look at the two contenders for  
Project LAND 400 Phase 3 starting on page 28 in this issue.

[I seem to be working backwards here, but what the heck] – starting on  
page 20 is a nice spread from 6RAR. But, the most interesting thing about  
this 8-pager is the fact there's *NO STORY* to go with some excellent photos.  
And, you know what, this is a real bee-in-the-bonnet issue for me – but I'm  
not going to go into too much detail.

The fact is, though, RAAF re-raised an old WWII bomber squadron  
(Number 864 Squadron) as a dedicated PR organisation on 1 January  
this year; Navy raised a new, dedicated PR unit about five years ago and  
Army has a whole corps of PR professionals, which recently expanded so  
they could post photographers into regional formations – plus there's a  
hundred or more Public Servants in full-time PR positions in Defence – and  
yet, CONTACT's struggle to fill 80 pages of magazine just four times a year  
is truly getting harder and harder.

That 6RAR spread is a classic example. Great photos – ZERO STORY. Even  
the Cope North spread starting on page 50 is 90% US Air Force.

I know COVID might be a decent excuse, especially for Cope North. But  
COVID is no excuse for the 6RAR package – the photographer was there –  
he could have, should have been able to come up with a bit more than the  
60 words common to every photo in that series.

It's not really the photographer's fault though – he wasn't trained to  
write – he isn't expected to write – and truth is, a story to go with those  
photos is likely to pop up on the Defence News web site a week or two  
after the photos were published – with no link or reference back to the  
photo series – and no link or reference to the story from the photos.

I could rabbit on for hours on this frustrating topic, but, I don't have time  
to properly consider my argument, and no one cares what I think anyway.

The bottom line is, it is getting harder and harder to keep 'doing their job  
for them'. But continue I must.

Sincerely,

Brian Hartigan,  
Managing Editor



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# IN PRINT



# F-35A

A Royal Australian Air Force F-35A Lightning II Joint Strike Fighter, off the coast of New South Wales.

- Despite it being a Public Holiday and in the middle of Defence's Christmas stand-down period, Australia's F-35A Lightning II fleet officially achieved Initial Operational Capability on 28 December 2020.
- Also confirmed in December is that all Australian F-35A initial pilot training is now conducted in Australia, with more than 30 jets and six networked simulators in place at RAAF Base Williamtown and four more simulators joining the network at RAAF Base Tindal this year.

- Three new F-35As arrived at RAAF Base Williamtown on 11 February, bringing the total fleet to 33. The new delivery is enough to see two operational squadrons fully equipped, plus training aircraft.
- The delivery in February, called Exercise Lightning Ferry 21-1, was conducted from Luke Air Force Base, Arizona, beginning on 27 January to RAAF Base Williamtown, supported by an RAAF KC-30A multi-role tanker transport from No. 33 Squadron and a No. 36 Squadron C-17A Globemaster.



## SPEND UP

With Australia officially winding down its commitments in the Middle East in favour of a pivot to an Indo-Pacific focus, and with Australia/China relations on an increasingly frosty footing, the Australian government broke out a fat chequebook in the past quarter, spending big on new gear.

A spending-led economic and jobs-building pandemic recovery is also touted as a good excuse for largesse.

While most of the newly announced purchases were already in the procurement pipeline, some were not and some that were have been fast-tracked.



Poseidon over Canberra. Photo by Chief Petty Officer Cameron Martin.

## EXTRA POSEIDONS

**Australia's maritime patrol capability will be boosted by ordering two more P-8A Poseidon surveillance and response aircraft, bringing the total Royal Australian Air Force fleet to 14.**

The government has also approved sustainment funding for the current approved fleet of three MQ-4C Triton unmanned surveillance aircraft.

Minister for Defence Linda Reynolds said that, together, the Poseidon and the Triton would provide Australia with one of the most advanced maritime patrol and response capabilities in the world.

"Poseidon is a proven capability that will conduct

tasks including anti-submarine warfare, maritime and overland intelligence, surveillance and reconnaissance – even the capability to strike targets above and below the ocean's surface," Minister Reynolds said.

"Planned integration of the Long Range Anti-ship Missile (LRASM) will also allow it to strike adversary surface vessels at significantly increased ranges."

Minister Reynolds said the additional aircraft would enhance the Royal Australian Air Force's flexibility to support multiple operations and would play an important role in ensuring Australia's maritime region was secure.

## AUGMENTED REALITY NVGs

Some ADF personnel will be equipped with a new night-fighting capability that combines night vision, thermal imagery and augmented reality inputs.

The investment will deliver more than 5500 helmet-mounted fused night vision systems to the ADF in less than three years.

Missions Systems Australia was awarded the \$173 million contract to deliver the capability, which is expected to be rolled out by 2023.

Minister for Defence Linda Reynolds said the equipment would ensure Australian soldiers were better equipped to fight and win in all conditions.

"The new fused night vision systems will provide greater survivability to our ADF personnel through increased situational awareness and the ability to detect movement at greater distances," Minister Reynolds said.

"The fused night vision system will also allow augmented reality enhancements, including location and navigation data in the heads-up display."



Photo by Corporal Kyle Genner.

## APACHE AH-64E

Minister for Defence Linda Reynolds announced in January that Australia would begin to receive new Apache AH-64E helicopters in 2025 – just four years from now – knocking Eurocopter's Tiger off the armed-helicopter perch.

Army will get 29 Apache AH-64E Guardians to replace the 22 Tigers it currently operates, with the latter to be fully withdrawn from service in 2028.

The project is said to cost \$4.5 billion.

See more details on this project and the Apache generally, starting on page 34 in this issue.

## \$BILLIONS\$ MISSILE DEVELOPMENT

**The government announced in January it would spend \$1 billion to commence the early development of advanced guided weapons to enhance Australia's maritime security.**

Minister for Defence Linda Reynolds said this significant commitment would modernise the Navy's platforms to project and maintain sea control.

"This project will provide Navy with leading-edge long-range anti-ship missiles, extended range surface-to-air missiles, advanced light-weight torpedoes and maritime land-strike capabilities," Minister Reynolds said.

"With ranges in excess of 370km for anti-ship and surface-to-air missiles, and 1500km for maritime land-strike missiles, these new weapons will enhance the protection of our



HMAS Hobart fires an SM2 missile. Photo by Chief Petty Officer Cameron Martin.

maritime resources and borders, and hold adversaries at risk at much greater distances.

"These new capabilities will provide a strong, credible deterrent that will ensure stability and security in the region."

"The project also seeks opportunities to broaden Australia's weapons manufacturing base, reinforcing our long-term commitment to Australian industry and delivering sovereign capabilities."

### MRF-D COVID +

A 21-year-old US Marine who arrived in the first tranche of the 2021 Marine Rotational Force – Darwin on 11 February returned a positive COVID-19 test result on arrival in Darwin.

Asymptomatic, he was moved from quarantine to the Royal Darwin Hospital in line with established protocols.

All close contacts were monitored during the remainder of their mandatory 14-day quarantine.

### FIRETRUCKS TO PNG

Five firetrucks donated by Queensland Fire and Emergency Service were taken to PNG on board HMAS Choules in February.

The refurbished Type 2 urban units were equipped with a comprehensive inventory of firefighting and road-crash-rescue equipment and updated breathing apparatus compliant with existing systems in PNG.

### WA FIRE POWDER

RAAF made two deliveries of fire retardant powder to Western Australia to support firefighting efforts this summer.

About 100 tonnes of supplies were shifted by C-17 and C-130 to Busselton Margaret River Airport.

A mobile air load team from RAAF Base Pearce's No. 25 Squadron travelled 265km to unload the aircraft at Busselton, helped by Army's 13 Brigade machinery.

### MEAO FLAME OUT

The horsepower behind JTF 633's firefighting capability in the Middle East has been returned to Australia, signalling the end of a 17-year ADF fire, crash and rescue presence in the region.

Under control of the only remaining RAAF firefighter in theatre, Flight Sergeant Cameron Gard, the Rosenbauer Panther crash tender was loaded onto an Australian C-17A Globemaster on 21 January.

### INVICTUS OFF

Invictus Games The Hague 2020 has been postponed for a second time.

No specific dates are yet confirmed, but organisers say the games will go on in the northern spring of 2022.

### DESERT STORM 30

The 30<sup>th</sup> anniversary of the start of Operation Desert Storm ticked over on 17 January.

A devastating 42-day aerial bombing campaign followed by just 100 hours of ground operations saw Saddam Hussain's forces ordered to withdraw from Kuwait by 28 February 1991.

Some 20 ADF members participated in Operation Desert Storm attached to US and British formations, plus four ADF surgical teams aboard the US hospital ship Comfort.

HMAS Brisbane was also serving alongside the US Navy in the Middle East at the time.



STS Young Endeavour head back to sea. Photo by Able Seaman Benjamin Ricketts.

### STS BACK AT SEA

Sail Training Ship Young Endeavour has returned to sea sooner than expected, to develop the confidence and resilience of young Australians.

With comprehensive COVID-safe protocols in place, a number of modified voyages have been scheduled, initially for NSW-based participants only, with other states to be facilitated before the end of the year.

All participants who were affected by the suspension of voyages in 2020 have been given priority this year.



**SPEND UP**



An Australian Army Lighter, Amphibious Resupply Cargo (LARC-V) in action on Exercise Talisman Sabre 2015. Photo by Corporal Mark Doran.

## NEW LANDING CRAFT

**Defence will invest up to \$800million to acquire new fleets of amphibious vehicles and landing craft.**

Through this project, an independent landing craft will be delivered to replace the Army's existing LCM-8 vessels and an amphibious vehicle will be built to replace Army's current LARC-V.

The watercraft will provide independent shore-to-shore, ship-to-shore, and over-the-shore capabilities to better manoeuvre and sustain the ADF in littoral and riverine environments.

Minister for Defence Linda Reynolds said these new vessels, to be introduced from 2026, would be larger, faster and better protected.

"They will allow Defence to quickly and effectively deploy domestically and to our near region," she said.

Minister for Defence Industry Melissa Price said Australian industry involvement would be maximised throughout the project.

"We hope this will also encourage potential export opportunities for Australian industry," Ms Price said.

## NEW DRYDOCK

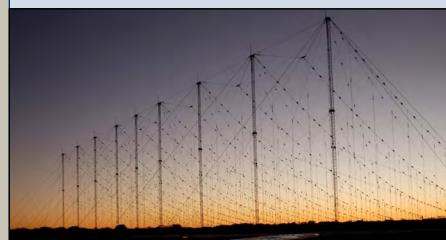
**Minister for Defence Linda Reynolds announced in January (in conjunction with the Huon-class replacement announcement, below left) that a new dry dock facility would be built at Henderson in Western Australia – though the investment will be a State-government responsibility.**

"With plans highlighted in the 2020 Force Structure Plan to build two multi-role sealift and replenishment ships, a Pacific Support Vessel, and an ice-rated replacement for Ocean Protector in Australia, additional major docking facilities will be required in the near future to supplement the capability of the Captain Cook Graving Dock in Sydney," Minister Reynolds said.

"The construction of such a facility would be an enormous boost to our sovereign shipbuilding and sustainment industry, and the Western Australian government's forward-leaning approach and commitment to this work is crucial to Defence."

The build is expected to cost in the region of \$500million with pressure on its completion this decade.

## JORN UPGRADE



**CryoClock Pty Ltd was awarded a \$4.8million contract to develop and test its ultra-high-precision Sapphire Clock technology that could allow Jindalee Operational Radar Network (JORN) to generate much better signals.**

JORN is a strategic area-surveillance system that surveys our northern air and sea approaches out to 3000km, but system performance depends highly on atmospheric and environmental conditions, and an object's size and construction.

CryoClock Managing Director Andre Luiten said if JORN had access to better time signals, it could see smaller slower objects at much greater distances.

"Our Sapphire Clock would allow JORN to generate signals 1000 times purer than its current technology," Mr Luiten said.

## HUON REPLACEMENT



HMA Ships Yarra, Huon and Gascoyne in Sydney Harbour. Photo by Leading Seaman Jarrod Mulvihill.

**Minister for Defence Linda Reynolds announced in January that the Huon-class replacement project would be fast-tracked.**

"We are bringing forward the replacement of the Huon-class vessel from the 2030s to the mid 2020s," Minister Reynolds said.

"We are also committed to constructing a new hydrographic capability.

"These vessels will help Navy navigate more confidently throughout the region, and safely clear minefields with

the use of autonomous technologies."

Minister Reynolds said the government had decided to explore a variant of the new offshore patrol vessel for the new mine countermeasures and survey ships under project SEA 1905 Phase 1, which would sustain construction jobs at the Henderson shipyards in WA.

Eight ships have been built and delivered in WA in the past five years with another eight currently under construction at Henderson.

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## BIG PICTURE 2



An Australian soldier from the Red Berets parachute display team drops into Circular Quay carrying the Australian National Flag to help kick-start Sydney's Australia Day festivities on 26 January 2021. The four-person Red Berets team landed safely on water targets in Circular Quay, thrilling crowds lining the harbour.

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# BASIC WEAPONS OF 6RAR

Soldiers from the 6<sup>th</sup> Battalion, Royal Australian Regiment, spent the first few days of their training year at the 25m shooting range on Gallipoli Barracks, Brisbane.

Transport to the range was on shanks' more – a pack march to get the blood pumping.

On the range, participants from A Company, 6RAR, cycled through combat shooting training serials with the in-service EF88 Austeyr rifle and the 9mm Browning 1911 self-loading pistol, honing vital marksmanship skills used by Australian infantry – and all Australian soldiers, to some degree.

Commander of the 7<sup>th</sup> Combat Brigade Brigadier Jason Blain visited the range and spoke to soldiers and their leaders during the training.



The 7<sup>th</sup> Brigade Facebook page offered a succinct “**Public Service Announcement:** 6RAR’s Private Dilbag Singh is a weapon” – with which CONTACT could not argue, choosing his photo to grace the front cover of this issue of Australia’s best boots-on-the-ground military magazine.

Photos by Corporal Brodie Cross

LEFT: Lieutenant Kurt O'Neill leads his men to the range.

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# BASIC WEAPONS OF 6RAR

The EF88 is one of 49 Weapons of the ADF that features in our unique, viewee-twoee-sized pamphlet of the same name.

This unique product may well be the only resource of its kind anywhere in the world, bringing this information together in one handy reference guide.

However, in researching these booklets, it struck us how hard it was to nail down specific facts.

Defence is pretty cagey about exact facts and figures – sometimes even about which specific model or upgrade they use, especially with big-ticket items such as Navy's missiles.

## WEAPONS OF THE ADF

### Assault rifles

EF88



Calibre	5.56mm
Weight	3.89kg (with full magazine)
Length	802mm
Barrel length	508mm
Muzzle velocity	930m/sec
Effective range	300m
Cyclic rate of fire	680-850 rounds per minute

**Enhanced F88 or EF88 is the in-service weapon of the Australian Army, with initial issue commencing in 2016.**

Defence contracted Thales to produce the new rifle, grenade launchers, spare parts and various ancillaries, at their facility in Lithgow, NSW. The EF88 (which Thales is marketing as the F90) can be field fitted with a grenade launcher attachment (GLA) with no special tooling required. One significant difference between the EF88 and older variants is that the barrel is fixed.

It can also be fired right or left handed without adjustment. The weapon as issued to the Army is black, but soldiers and units are authorised to custom paint their weapons, with approved paints.

LEFT: Unnamed soldiers from 6RAR fire the EF88.





# BASIC WEAPONS OF 6RAR

Manufacturers too are cagey about specific facts in a lot of cases – but also bombard (pun intended) the reader with near-meaningless PR spin and sales talk.

Wikipedia is an amazing resource – but can't be relied upon 100%, especially when there are several variants and upgrades to a particular weapon or system and the researcher has to deduce which one to go with.

We hope CONTACT did OK, but there's every chance of errors. So please don't rely on our info to win your next battle – or trivia quiz.

## WEAPONS OF THE ADF

### Pistols

#### Browning Mark 3



**Calibre** 9mm  
**Weight** 1.07kg [loaded]  
**Length** 200mm  
**Barrel length** 118mm  
**Muzzle velocity** 350m/sec

**The 9mm Browning Mark 3 self-loading pistol is a short-recoil, magazine-fed semi-automatic weapon with fixed open sights and a 13-round magazine.**

The weapon is ideally used for quick, instinctive firing at very short-range targets (less than 5m) or more deliberate fire up to 25m. The pistol can be fitted with a lanyard and/or a torch mount. It is probably the most widely used military/police pistol in the world with more than 1,000,000 units manufactured, after being first introduced into Belgian military service in 1935.

LEFT: A 6RAR soldier fires the Browning 9mm pistol.





# ALL THE WEAPONS OF 6 RAR AND THE ADF

CONTACT's unique Weapons of the ADF is a free 52-page viewee-twoee-sized publication, offered to new subscribers as a reward for subscribing to CONTACT, which is also completely free.

If you are a subscriber already and somehow missed getting this excellent collectable, you can download and print it, to fit neatly into a viewee twoee field notebook, [here](#)

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**WEAPONS OF THE ADF**  
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**WEAPONS OF THE ADF**  
Machine Guns **Minimi**

Calibre 5.56mm  
Weight 7kg (with 100-round box magazine)  
Length 1080mm (865mm Para)  
Barrel length 570mm (349mm Para)  
Muzzle velocity 930m/sec  
Effective range 400m  
Cyclic rate of fire 800-900 rounds per minute

The F89 Minimi light support weapon (LSW), manufactured under licence in Australia, is employed as the primary support weapon at the brick, squad or section level. It is gas operated, fully automatic, air cooled and fed by a disintegrating-link belt, either loose or from a 100-round belt box, and is capable of high rates of effective fire against point and area targets. The LSW 5.56mm Para Minimi (shorter, with collapsible stock), is employed as the primary support weapon for parachute forces teams and as a section support weapon for parachute units. The LSW is fitted with a Picatinny rail and is configured with standard optical weapon sights or can be fitted with an enhanced optical sight, night-aiming device, laser target designator or night weapon sight.

**WEAPONS OF THE ADF**  
Explosive Weapons **Grenade**

Weight 370g  
Length 96mm  
Width 58mm  
Lethal radius 6m  
Casualty radius 15m  
Danger radius 30m  
Detonation 4.5-5.5 seconds

When direct fire on an enemy may not be appropriate or achievable, soldiers require a weapon that can overcome such deficiencies. A hand-thrown blast and fragmentation grenade provides this capability at short range. It can be easily carried by individual soldiers and so is available for immediate use. The F1 fragmentation grenade is a hand-thrown, anti-personnel grenade, effective in clearing enemy from bunkers, fire trenches, dugouts and buildings. It can also be used for all types of close-quarters battle, urban fighting and ambushing. The F1 fragmentation grenade contains 30g of high-explosive (HE) mixture and approximately 4000 x 2.5mm steel balls. Smoke variants are also available. "They're still a weapon and come in very handy," one soldier told CONTACT.

**WEAPONS OF THE ADF**  
Support Weapons **SL40**

Weight 1.025kg  
Barrel length 180mm  
Muzzle velocity 76m/second  
Effective range 150m  
Max range 400m  
Action Single shot

The SL40 grenade launcher attachment is a derivative of Steyr's GL40, specifically modified for fitment to the EF88. The SL40 has a side-opening receiver and its trigger is located within the EF88's trigger guard. It can be fitted and removed by the operator without specialist equipment and can fire all standard 40mm grenades.

LEFT: Private James Christou leads the march to the range.



REBACK v LYMK

# BATTLE

# LINES

**The Australian Army's biggest acquisition ever has reached a significant milestone with six prototype test-and-evaluation vehicles from the project's two shortlisted tenderers ready to rumble...**

Project LAND 400 Phase 3, valued at up to \$27billion will provide the Army with an advanced infantry-fighting-vehicle capability.

South Korean company Hanwha and Germany's Rheinmetall have each delivered three prototype vehicles, through their Australian subsidiaries, for test and evaluation, to see which offering will ultimately be issued to the Army.

Two vehicles from each company will be driven and used by soldiers for the next year or more, in as many different environments as a possible, while the third of each vehicle type will be subjected to various ballistics and blast tests – to ultimate destruction.

Minister for Defence Linda Reynolds said the delivery of the prototype vehicles was a crucial step in the project, allowing Defence to assess the

shortlisted tenderers' performance claims, focusing on the areas of highest technical risk.

"These significant activities include Australian soldiers participating in user evaluation and testing, with a particular focus on the armour, firepower and mobility of the platforms," Minister Reynolds said.

"The risk mitigation activity will undertake important analysis on each vehicle's ability to integrate with other key ADF land, sea and air capabilities, including amphibious lift.

"Infantry fighting vehicles are a tracked, armoured vehicle, capable of carrying six [or more] soldiers in addition to a crew of three.

"These advanced vehicles will provide increased protection, mobility, and firepower for the ADF."

Politics, will undoubtedly and unfortunately play







**A SENSE OF SCALE:**

CONTACT is not displaying a preference here – just trying to give a sense of the immense size of one LAND 400 Phase 3 contender – Lynx – as seen at Land Forces Conference 2018 in Adelaide. Photo by Brian Hartigan.



some part in the ultimate selection process.

Minister Reynolds said the risk mitigation activity would include sufficient detailed testing and evaluation of the tendered vehicles to provide Defence with the objective, quality evidence it would need to inform a government decision in 2022.

Already, both companies have enlisted the support of the State governments in Victoria and Queensland.

The Victorian government threw its support behind Hanwha Defense Australia to build and maintain its vehicles in Geelong, where the company has also committed to building 30 self-propelled howitzers and 15 armoured ammunition resupply vehicles and their supporting systems – as well as maintenance and repairs during their years of service in the Australian Army – under the separate Army LAND 8116 Phase 2 Protected Mobile Fires Project confirmed in September last year.

Victorian Minister for Industry Support and Recovery Martin Pakula signed a Memorandum of Understanding with Hanwha in January

to formalise a long-term partnership that will support the establishment of Hanwha's defence manufacturing operations in Victoria.

Minister Pakula was at Laverton North to inspect Hanwha's LAND 400 Phase 3 vehicle – the Redback AS21 – before it was delivered to the Commonwealth for testing.

Not long after, Rheinmetall announced it had secured the support of the Queensland government in its bid to win LAND 400 Phase 3 program, from its new Military Vehicle Centre of Excellence – MILVEHCOE – at Redbank, south-west of Brisbane.

That State government had earlier backed Rheinmetall's successful Boxer 8x8 combat reconnaissance vehicle bid for the LAND 400 Phase 2, partnering with the company to establish the MILVEHCOE as a national hub for military vehicle technology.

Rheinmetall MAN had also won the ADF's truck-fleet replacement project LAND 121 Phase 3b, to supply 2700 trucks, 3800 modules and 1700 trailers, which began to roll out in 2016 – and was later asked to bolster the fleet with an additional 1044 trucks, 872 modules and 812 trailers, in 2018.

Prime Minister Scott Morrison officially opened the Military Vehicle Centre of Excellence in October 2020 and it is now in the early stages of commissioning ahead of the transition to full Boxer production in 2023.

Under Project LAND 400 Phase 3, Army will acquire up to 450 infantry fighting vehicles and a manoeuvre-support-vehicle capability of up to 17 vehicles – at a total cost of up to \$27billion – Army's largest spend ever.

There are even suggestions that Defence has already asked for and received additional information about possibly procuring another 117 vehicles, configured as logistics vehicles, mortar carries with direct fire capabilities, mortar ammunition providers and protected amphibious platforms.

Before we get to selection, however, both companies will be allowed and encouraged to engage with Defence, to clarify, refine and negotiate their tender offerings.

The tender process for LAND 400 Phase 3 officially opened in August 2018 and, just over a year later, Hanwha Defense Australia and Rheinmetall

Defence Australia were short-listed to participate in the test and evaluation phase.

Key differences between this new tender and LAND 400 Phase 2 (won by Rheinmetall's Boxer CRV) is that there are more than double the number of vehicles required – and the winning vehicle will likely be a much heavier, definitely with more firepower, and roll on tracks rather than wheels.

The two vehicles contending are also quite different – Hanwha's AS21 Redback is an Australia-specific derivative of their K21 IFV, in service with the South Korean Army for more than 12 years, with 400 vehicles built to date – while Rheinmetall's Lynx is a new vehicle, first displayed at a trade show in Paris in 2018, with Hungary recently announced as the first country to buy it but not yet field it.

Whichever vehicle is eventually chosen, it will herald a massive upgrade in the Australian Army's warfighting capabilities.

# May the best vehicle win

BELOW: Hanwha's AS21 Redback in Australia (the only high-resolution photo thus far released by ADF).

OPPOSITE: Hanwha trade display at Land Forces Conference 2018 in Adelaide. Photo by Brian Hartigan.







## ARMY IS GETTING APACHE AH-64E HELICOPTERS!!!

**Minister for Defence Linda Reynolds made the announcement in January that the Australian Army would begin to receive new Apache AH-64E helicopters in 2025 – just four years from now.**

"Army's armed reconnaissance capability will be strengthened following the selection of Boeing Apache Guardian to replace Army's armed reconnaissance helicopter from 2025," Minister Reynolds said.

I nearly choked on my coffee when I saw the press release.

First of all, it had a banal headline – FUTURE READY – STRENGTHENING ARMY'S ARMED RECONNAISSANCE CAPABILITY – seemingly deliberately designed not to attract attention.

And, the actual news just about everyone wanted to hear was 'buried' 14 words deep into the first, overly long paragraph.

Then there's the fact that, while a replacement project was announced less than two years ago, so little has been said (officially) about the Tiger-

replacement project (maybe the second-most lambasted capability after submarines) that I had all-but forgotten it was even a thing.

Third – did I mention the project was launched 18 months ago? – making this one of, if not *the* shortest turnarounds in Defence acquisition history!

There was no word from the minister to suggest how many helicopters we had suddenly decided to buy – though 29 was the rumour, later confirmed by ARMY Newspaper – and that's seven (a whole squadron's worth) more than the Tigers they're replacing.

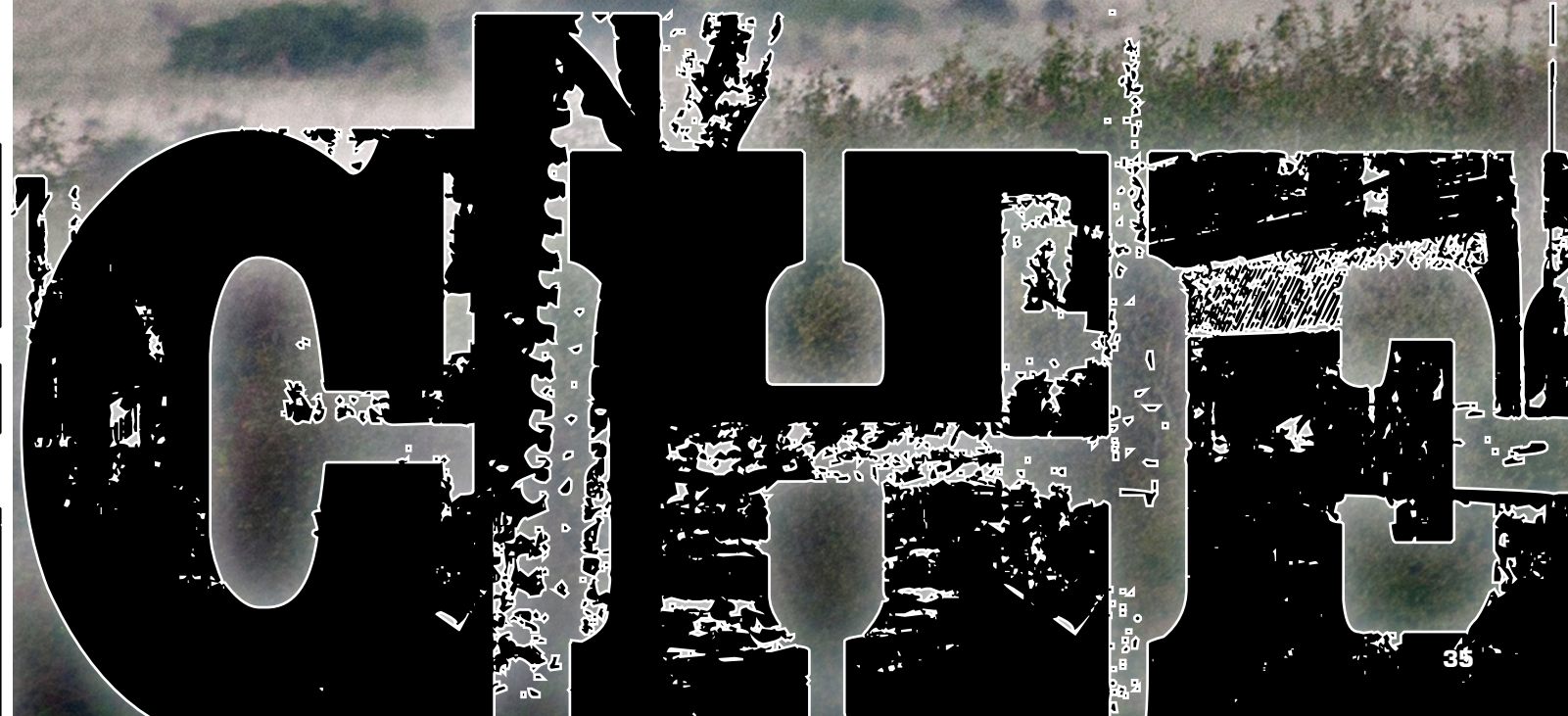
No mention either of the project cost.

In a not-so-veiled swipe at Tiger, Senator Reynolds said Defence considered a number of helicopters against the selection criteria of proven ability, maturity and an off-the-shelf operating system.

"AH-64E Apache Guardian is equipped with improved sensors, communications suites, attack capabilities and improved survivability," she said.

BELOW: A British Army Apache over Salisbury Plain.  
Photo by Richard King. UK MoD/Crown copyright.

FAR LEFT: A US Army Apache in the North Arabian Gulf.  
US Army photo by Specialist Cody Rich.







## AH-64 APACHE specifications

Crew	2
Weapon systems	30mm cannon 70mm rockets AGM-116 Hellfire missiles
Sensors	Thermal/day TV/laser designation system and 'Longbow' fire-control radar providing; <ul style="list-style-type: none"> <li>longer-range weapons accuracy and all-weather/night-fighting capability;</li> <li>detection of moving or stationary objects without being detected, out to 8km;</li> <li>classification and threat-prioritisation of up to 128 targets in less than a minute</li> </ul>
Networking	<ul style="list-style-type: none"> <li>Integrated sensors, networking, and digital communications for situational awareness and management of the battlespace in real time.</li> <li>Digital transmission of images and target locations to other assets and commanders.</li> <li>Capability to control unmanned aerial vehicles.</li> </ul>
Speed	Aproximately 150 knots (280km/h)
Badass level	Very high (especially in dark-grey colour scheme)

### HAVE YOUR SAY:

Should Australia's AH-64E Apache attack helicopters be painted...

- ☐ in hues of greenie/missionbrown/pink; or,  
☐ **you-should-be-scared-shitless grey**

The editor has no opinion either way :-)



"Apache Guardian is the most lethal, most survivable and lowest risk option, meeting all of Defence's capability\*, through-life support, security, and certification requirements."

"Though some, like noted Defence observer Ian Bostock, believe that maybe a very key capability has been overlooked, or at least accepted under, 'we can work with that' [see next section for Ian's thoughts on marinisation – or more specifically, the lack of same].

In another, more pointed backhander to Tiger, Minister Reynolds said that pursuing a proven, low-risk system offered by the Apache, Defence would avoid the ongoing cost and schedule risk typically associated with developmental platforms [noting that Airbus proposed to improve the in-service Tiger as their bid in the Tiger-replacement project].

"Lessons learnt from issues with the ARH Tiger and other rotary-wing projects [hinting at MRH-90 and possibly Sea Sprite] had informed the strategy to seek a proven, mature ARH replacement capability," Senator Reynolds said.

"This new ARH capability will strengthen Australia's armed reconnaissance force to better shape our strategic environment and deter actions against our national interest."

Two weeks after the official announcement, ARMY Newspaper confirmed one of the key details missing from Minister Reynolds' press release – that Army would acquire 29 AH-64E Apache Guardians to replace its existing 22 Tigers.

The seven extra platforms would be enough to raise a whole new squadron, but no details have yet been announced.

Another detail which remains unclear is whether all – and if not, how many – of the new helicopters would be fitted with the 'Longbow' fire-control radar, distinctive above the main rotor.

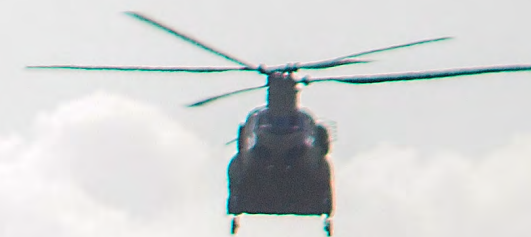
But, as pointed out by one CONTACT fan in discussion, "The FCR (fire-control radar) is not always required and comes at a significant weight penalty. The bonus of having an interoperable data link is that other non-FCR-equipped

formations (or any other L16 player) can share [the radar picture from an equipped helicopter and even] shoot off their track. Joint connectivity and a large user group is the clear strength of Apache over the other bids."

There was also no word on how much this acquisition project would cost.

But we do know that Apache – possibly in AusCam colours, though Facebook experts almost unanimously hated that idea – will replace the beleaguered Tiger as Army's armed reconnaissance helicopter starting from 2025.

Tiger helicopters will, apparently, only be operated and supported until 2028.



MAIN: In what will soon become a familiar sight, two Apache and a Chinook join a Black Hawk to form part of Battle Group Pegasus at Williamson Airfield, Shoalwater Bay. Exercise Talisman Saber 2017 photo by Staff Sergeant Rory Featherston.

MIDDLE LEFT: A British Army Apache fires its 30mm canon. Photo by Corporal Mark Ballantyne. UK MoD/Crown copyright.

BOTTOM LEFT: An artist's impression of Apache helicopters in Australian Army camouflage colours. Image supplied by Boeing.





*Another soon-to-be-familiar sight – Apache helicopters over Australian suburbs – in this case, Townsville. Photo by Corporal Oliver Carter.*





Following is an expert opinion piece written  
by Ian Bostock, Founder and Editor of

# DEFENCE TECHNOLOGY REVIEW

## IS APACHE SELECTION AT ODDS WITH AUSTRALIA'S REGIONAL REALITY?

The AH-64E Apache Guardian will be an improvement over the in-service Tiger ARH in many areas, but is it right for regional operations in the archipelago?

### LAND 4503

**Battle-hardened with highly capable systems and an enviable weapons payload, mature and low risk, the AH-64E Apache Guardian will be a worthy replacement for the Australian Army's not-so-long-in-the-tooth Tiger armed reconnaissance helicopter (ARH).**

Announced on 15 January, the selection of the E model Apache through the US Foreign Military Sales (FMS) program came as a surprise to few, although many in industry were keen to see a competitive evaluation for Land 4503 take place.

There is some irony in the selection of the Apache as a replacement for the Tiger ARH as it was also a lead contender for the original AIR 87 crown more than 20 years ago – a time when there was, safe-to-say, more emphasis on armed reconnaissance than attack.

Nonetheless, the Apache will sit comfortably among the Army's recent and pending platform procurements, which are also certainly at the higher end of the capability spectrum – think Boxer Combat Reconnaissance Vehicle under LAND 400 Phase 2, M1A2 Abrams under LAND 907 Phase 2, armoured breacher vehicles and bridgelayers under LAND 8160 Phase 1, K9 self-propelled howitzers under LAND 8116 and advanced infantry fighting vehicles coming via LAND 400 Phase 3.

"Defence considered a number of helicopters against key criteria of proven ability, maturity and an off-the-shelf operating system," Defence Minister Linda Reynolds said, citing the Apache Guardian as the most lethal, most survivable and lowest risk option that meets all of Defence's capability, through-life support, security and certification requirements.

"By pursuing a proven and low-risk system offered by the Apache, Defence will avoid the ongoing cost and schedule risk typically associated with developmental platforms."

Lessons learnt from issues with the Tiger ARH and other rotary-wing projects (read MRH90 under AIR 9000) had informed the strategy to seek a proven, mature ARH replacement capability, Senator Reynolds said.

Compared to the Tiger ARH, the AH-64E Apache Guardian possesses proven survivability, fully developed mission and communications systems, the Link 16 tactical data network and carries nearly three times more 30mm cannon rounds (1200 vs 450). Like Tiger, Apache can carry eight AGM-114 Hellfire air-to-ground missiles and two 19-round pods of 70mm guided rockets as a standard weapons loadout. The E model Apache also has a manned-unmanned teaming capability, although much less range than the Tiger ARH (480km vs 800km).

Apache also has a far larger user group, with no less than 16 operators of the type worldwide outside of the US and the selection by Australia. This broad spread of end users will enable the Army to latch on to selected Apache upgrades over the next 20 years at sharply reduced technical risk and cost.

*A US Army AH-64E Apache Guardian and an TNI Mi-35 Hind take off on a training mission from Semarang, Indonesia. US Army photo, 2014.*







A British Army Apache fires a Hellfire missile (below) and its 30mm cannon (right). Photos by LA Guy Pool. UK MoD/Crown copyright.  
A British Army Apache shows off at an airshow (far right). Photo by SAC Tim Laurence. UK MoD/Crown copyright.



The AH-64E Apache Guardian incorporates a number of improvements over previous models, including:

- advanced digital connectivity;
- Joint Tactical Information Distribution System;
- more powerful T700-GE-701D engines with upgraded face gear transmission to accommodate additional power; and,
- composite main rotor blades

According to Boeing, more than 400 AH-64E model Apaches have been delivered worldwide to date. Reassuringly, when Australia's Apaches are delivered via the FMS process they will work as advertised and fulfil the requirement. It is the same acquisition model used successfully for the Royal Australian Navy's MH-60R naval combat helicopters and the Royal Australian Air Force's F/A-18F Super Hornet multi-role fighters – just buy them, get them in service.

The first of no doubt numerous in-country through-life support arrangements between Boeing Defence Australia and Australian industry has already seen the signing of a memorandum of understanding with NIOA to support the Apache's M230 30mm chain gun and 30x113mm ammunition system.

## OPTION EVALUATION

Defence said it had assessed the Airbus offer to upgrade the Tiger ARH, as well as the Bell AH-1Z Viper in service with the US Marine Corps.

Boeing, Airbus and Bell each responded to a LAND 4503 request for information (RFI) released in July 2019, which called for 29 helicopters to form two operational armed reconnaissance helicopter squadrons, with five aircraft allocated for training and attrition.

First Apache deliveries to Australia are anticipated in 2025, with a 12-aircraft initial operational capability to be achieved in 2026 and final operational capability in 2028, according to the RFI.

The AH-64E Apache Guardian buy is expected to cost around AUD\$4.5 billion.

Minister Reynolds said in her statement that the AH-64E Apache would "strengthen Australia's armed reconnaissance force to better shape our strategic environment and deter actions against our national interest".

But it has to get to the region first and then stay there to do all that, and that is not as straightforward as it might seem.

Doubtless the supreme combat helicopter for the land battle, the US Army has successfully deployed its Apaches to numerous theatres over the past three decades. It has not, however, done so in the Indo-Pacific where the Australian Defence Force's operational focus lies. It has not had to deploy them from amphibious ships onto land and support the fleet from the sea where the big 'flat tops' act as motherships that provide both the ashore and embark maintenance, repair and intra-theatre redeployment necessary to keep the aircraft flying, fuelled, armed and operationally responsive.

While in service regionally with Singapore, Japan, South Korea and Indonesia and most recently entering service with India, none of these countries have expeditionary operations as their raison d'être, like the ADF does. None of them will be required to sail their Apaches inside the confined hangars of amphibious assault ships, deploy embarked across huge distances from home ports into and across the Indo-Pacific to reach an area of operations and then operate from those ships like Australian forces will one day be required to do.

With respect to deploying Apache on amphibious ships, there is a danger in believing the odd image and press release proclaiming that the aircraft can

operate from ships simply because it demonstrates an ability to take-off and land on one. Any helicopter can do that. It is not the same as living aboard a ship for extended periods.

It would be a long bow to draw to assume that every amphibious deployment in which Australian Apaches are to be part of will be undertaken in a permissive environment where the use of land-based sites suitable for supporting helicopters will be universally available. It is a combat helicopter after all, not a humanitarian-aid delivery platform, and amphibious ships may be the only friendly, flat, hard surface to operate from.

In this context, while the actual work of armed reconnaissance/attack will be done over land, sooner or later Australian Apaches will be required to operate from and live aboard one of the Canberra-class landing helicopter dock ships and their successors for extended periods.

If it is necessary to deploy a non-marineised helicopter under such circumstances, it will also be necessary to pay the piper.

*Originally published in Defence Technology Review, February 2021, and reproduced with permission of the author – Ian Bostock*





## THE MERITS OF MARINISATION

THERE IS A DANGER IN BELIEVING A PLATFORM CAN OPERATE FROM SHIPS SIMPLY BECAUSE YOU SAW PHOTOS OF IT TAKING OFF AND LANDING ON ONE. ANY HELICOPTER CAN DO THAT, BUT IT'S NOT THE SAME AS LIVING ABOARD FOR EXTENDED PERIODS

Marinisation is more than an anti-corrosion design feature. Marinisation is a process that ensures aircraft and equipment embarked on ocean-going vessels conform to navy standards and are safe to operate in a maritime environment. Properly marinised helicopters are designed from the outset with marinisation features built into the aircraft at point of manufacture. As an example, US Navy helicopters are designed and manufactured with an intent to deploy for long-term (6-month) operations at sea.

Design features include, but are not limited to:

- electromagnetic environmental effects (E3) hardening. Avionics components including communication/navigation, electronic countermeasure systems, weapons, munitions and their associated electrical-cable assemblies are extensively tested to ensure safe and effective operation without interference from the ship's electronic environment. The result is the aircraft is safe to operate without the ship having to switch off defensive emitters etc;

- rotor-brake and blade-fold capability to allow quick stowage above and below decks;
- use of composite materials to ward off corrosion on dynamic parts and aircraft structure;
- weapons and weapons-delivery systems designed to meet hazard of electromagnetic radiation to ordnance standards. Most land-force equipment and ordnance lack this standard and are unsafe to operate in a ship's electromagnetic environment;
- minimise footprint on flight and hangar decks by way of tailboom fold; and,
- shortened wheelbase between tailwheel and main landing gear to facilitate manoeuvre on crowded flight decks and in hangars and to allow the aircraft to be parked on deck with its tailboom hanging over the side, if required. Compare, for example, the tailwheel/main landing gear configurations of the AH-64E Apache (above and top left) with an MH-60R 'Romeo' (top right).

**DEFENCE**  
TECHNOLOGY REVIEW

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# ADFA SST

Between semesters of academic training at the Australian Defence Force Academy (ADFA), midshipmen and officer cadets complete Single Service Training (SST), which is the responsibility of their parent service.

For Army's officer cadets at ADFA, a range of Army-specific SST is conducted mostly at the auspices of the Royal Military College - Duntroon in Canberra, with some elements at various other locations around the country.

A large part of Army officer cadet non-academic training is conducted 'out bush', where the future officers learn weapons' handling, navigation, platoon-level tactics and field craft, including – as photographed at Majura Field Training Area in Canberra – to plan and execute deliberate section attacks, ambushes, observation posts and defensive positions.

BELOW: Officer Cadet Anthony Basaglia listens to orders. Photo by Corporal Robert Whitmore.

Officer Cadet Anthony Basaglia watches for enemy from a defensive position. Photo by Corporal Julia Whitwell.



Officer Cadet Lachlan Goodall gives orders during a section attack. Photo by Corporal Robert Whitmore.



Officer Cadet Joshua Hughes leads his section on a patrol. Photo by Corporal Robert Whitmore.



Officer Cadet Joshua Hughes leads an attack. Photo by Corporal Robert Whitmore.



# FIRST SHOT BETWEEN LEADERS

A live-fire exercise at the Greenbank Training Area in Queensland in the first week after the Christmas break provided infantry platoon leaders the opportunity to get to know each other's leadership styles.

Lieutenants and their sergeants from the 8<sup>th</sup>/9<sup>th</sup> Battalion, Royal Australian Regiment (8/9RAR), participated in Exercise First Shot.

Sergeant Phillip Brown said platoon commanders and their platoon sergeants had a unique relationship, and range activities such as Exercise First Shot were important in developing leadership styles among junior leaders.

"Exercise First Shot was the first time many of these lieutenants and sergeants worked together, making it the ideal environment to build their relationship and establish their small command teams," Sergeant Brown said.

"The cohesion between them is underpinned by trust, professionalism and loyalty."

The exercise involved a sequence of different live-fire serials over three days, with Sergeant Brown saying it was beneficial for new leaders in the battalion.

"It allowed lieutenants and platoon sergeants the opportunity to revise individual and small-team combat shooting and range-safety practices before the majority of the battalion returned to work after Christmas.

"The participants honed their skills in the combat marksmanship continuum, close-combat shooting and small-team battle lanes by day and night, employing individual and section weapons, including grenades and rockets.

"The exercise basically enabled junior leaders in 8/9RAR to learn from each other, which will allow them to conduct live-fire training with their platoons to a higher standard."



PHOTOS BY CORPORAL NICOLE DORRETT





# COPE NORTH

Forty-three years ago, the United States and Japan came together for the inaugural Cope North exercise, in Japan. In 1999 the exercise moved to its current home at Andersen Air Force Base, Guam, with news of its 'ending in victory' splashed across local newspapers. With the addition of Australia, Cope North has grown to be the largest multinational exercise in the US Air Force's largest area of operations.

This year's exercise was again held at the United States' Andersen AFB from 3 to 19 February 2021.

The first week of the exercise focused on humanitarian-assistance and disaster-relief (HA/DR) scenarios, followed by strike-mission training, while the second week focused on air-combat tactics and large-force employment.

For the first time, the Japan Air Self-Defense Force – or Koku-Jieitai – took the lead on the exercise.

Lieutenant Colonel Akihito Nämme, the Koku-Jieitai HA/DR lead planner said the exercise was very complicated and difficult to plan because they had a lot of functions and personnel, and he had to ensure they achieved all objectives.

Story compiled by **CONTACT** from contributions by **USAF Technical Sergeant Jerilyn Quintanilla and Senior Airman Jonathan Valdes, and ADF**

*A simulated casualty awaits aero-medical evacuation.  
US Air Force photo by Technical Sergeant Jerilyn Quintanilla.  
Photo digitally altered by CONTACT – flying formation added.  
Formation photo by US Air Force Staff Sergeant Divine Cox.*



HA/DR training started in classrooms, followed by basic familiarisation and hands-on training, capped off with a field-training element.

Out in the field, 21 medical personnel from the Koku-Jieitai, US Air Force and the Royal Australian Air Force worked side-by-side as they were put through the ringer.

RAAF Wing Commander Joleen Darby, an Australian exchange senior flight surgeon serving as an HA/DR white-force member, said they were simulating operations on a small island in the Pacific that had just experienced a typhoon.

"Our doctors and medical technicians set up a field hospital, and we simulated patients constantly rolling in," Wing Commander Darby said.

"Patient conditions included heat illness, mosquito-borne illnesses, injuries sustained in a vehicle rollover, and suspected COVID symptoms.

"The main training objectives were to execute the mission the way we would in a real-world situation, ensure everyone was familiar and integrating with one another and across services, and of course, we had to do all this while keeping everyone real-world COVID safe."

The wide range of patients was deliberately designed to test the team's ability to respond to every possible situation they might encounter in a real emergency.

United States Air Force Staff Sergeant Jhosselin Alonzo, a 36th Medical Group independent duty medical technician-paramedic, said the most beneficial part was to learn how to work with medical teams from the other countries and establish relationships.

"It was an amazing experience working with Staff Sergeant Sasaki from Koku-Jieitai – his scope of practice in Japan is very similar to mine so, despite the language barrier, we both understood medicine," Staff Sergeant Alonzo said.

Week two of Cope North 2021 saw the debut of the F-35A Joint Strike Fighter, joining flying units from the Royal Australian Air Force and Koku-Jieitai.

This was the first time the Eielson Air Force Base, Alaska-based aircraft had flown outside that state since arriving there about a year ago.

US Air Force 356th Fighter Squadron commander Lieutenant Colonel James Christensen said the F-35A enhanced the lethality of the entire air package, with the world's most advanced sensors, weapons and avionics suites available on any fighter.

"We can rapidly deploy and seamlessly integrate with sister services and partner nations to bring peerless military options to our commanders," Lieutenant Colonel Christensen said.



ABOVE: Members of the Japan Self Defence Force and the Royal Australian Air Force provide medical care during a simulated mass-casualty aeromedical evacuation on Exercise Cope North 21. US Air Force photo by Senior Airman Duncan C. Bevan.

BACKGROUND: A US Air Force C-130J assigned to 36th Airlift Squadron, Yokota Air Base, Japan, approaches Andersen Air Force Base, Guam, after completing an Exercise Cope North 21 sortie. US Air Force photo by Master Sergeant Larry E. Reid Jr.

# COPE NORTH 2021







LEFT: A simulated casualty receives treatment for injuries sustained in an explosion scenario.

RIGHT: Royal Australian Air Force Wing Commander Joleen Darby, an Australian Exchange Senior Flight Surgeon, and US Air Force Doctor Matthew Luthman, a 36th Medical Group flight doctor, assess a patient's injuries during a mass casualty scenario on Exercise Cope North 21.

Both US Air Force photos by Technical Sergeant Jerilyn Quintanilla.



"With its game-changing technology and ability to provide air power at a moment's notice, the F-35A demonstrated their undeniable presence and important role in the security and stability of the Indo-Pacific region.

"It was also important to show how safely and rapidly we could bring the F-35A online in PACAF and demonstrate our ability to deploy and project air power from multiple locations around the Pacific."

After flying more than 7500km, from the Alaskan tundra to the tropics of Guam – from minus 34 degrees C at Eielson AFB to plus 30 in Guam – taking the F-35As to Cope North was no easy feat.

US Air Force Master Sergeant Jade Son Villena, an F-35A specialist section chief with the 356th Aircraft Maintenance Unit, said a site-survey team was deployed to Andersen to identify supportability factors that would shape how the 356th would operate on a daily basis.

"One factor was that the F-35A has unique modern requirements and part of the effort was exploring the capabilities of Andersen Air Force Base to be able to support F-35A operational needs."

Despite the drastic temperature difference, long hours, heavy rain and strong winds, every second on Cope North was invaluable for Senior Airman Benjamin Lubert, a 356th AMU F-35A avionics journeyman assigned to Eielson AFB, Alaska.

"Seeing a wide range of aircraft from the US and partner nations first hand has been very exciting to say the least," Senior Airman Lubert said.

"It has also strengthened my sense of pride in the work my unit and I do.

"Hearing the F-35A roar over Andersen AFB certainly made me stand a little bit taller."

The list of accomplishments on Cope North 21 would have been impressive under normal circumstances, but this year participants dealt with an added curveball in the form of a global pandemic.

But, exercise director Colonel Hutchinson said that if the nations let COVID dictate how they trained,

readiness would suffer – "And, we refuse to let that happen".

"We've taken every precaution to make sure that all the participants and their families were safe, all the populations we visit were safe and also that we're safe when we go and re-integrate into our bases back home."

Australian exercise director Group Captain Nathan Christie said team performances, in spite of the COVID environment, was evidenced in the strength of international bonds.

"The fact that we could undertake this exercise during a global pandemic proves that, no matter what we face, if we work together we are able to do so and combat those effects together," Group Captain Christie said.

"We are here to celebrate our similarities and understand the similarities between the three nations.

"But, more importantly, we're here to understand the differences between Japan, USA and Australia, because it is our differences and understanding those differences that makes us stronger together.

"Equally, as the world continues to grapple with the effects of COVID-19 and a range of natural disasters, exercises such as Cope North enhance our collective humanitarian-assistance and disaster-relief preparedness."

More than 2000 military personnel and around 95 aircraft from the United States Air Force, United States Navy, United States Marine Corps, Japan Air Self-Defense Force and Royal Australian Air Force participated in Cope North 2021.

Australia's contribution included around 170 personnel, an E-7A Wedgetail, a KC-30A Multi-Role Tanker Transport, a contingency-response squadron and operational headquarters staff.

The Australian personnel were tested for COVID-19 on departure from Guam and were expected to complete applicable mandatory state or territory quarantine protocols when they got home, in line with other returning Australians.





PERSONAL  
HISTORIES  
IN INK

MILITARY TATTOOS





WORDS BY LIEUTENANT WILL SINGER

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ABOVE LEFT AND PREVIOUS PAGE: Operations Officer HMAS Ballarat Lieutenant Commander Kane Stuart's tattoos are a tribute to his family history in the Navy and a reminder of his own challenges and successes in service.

LEFT AND ABOVE RIGHT: Chief Petty Officer Lachlan Sommerville on HMAS Ballarat displays his traditional crocodile tattoo, done in honour of a three-year posting as the maritime training adviser to Timor-Leste.

Photos by Leading Seaman Shane Cameron.



# INSCRIBED ON THEIR SKIN IS THE OVERCOMING OF ADVERSITY, THE BONDS OF FAMILY AND FRIENDS AND THE MANY EXPERIENCES HAD WHILE SERVING IN THE NAVY

For many officers and sailors in the Royal Australian Navy, nautical-themed tattoos are a tradition that provide a sense of identity and belonging – and, for some, a form of remembrance.

Inscribed on their skin is the overcoming of adversity, the bonds of family and friends and the many experiences had while serving in the Navy.

Operations Officer HMAS Ballarat Lieutenant Commander Kane Stuart has Popeye tattooed on the inside of his left bicep.

He said the cartoon sailor and a collection of other tattoos were his personal tribute to a family history in the Navy.

"My uncle was in the Royal Navy when I lived in the United Kingdom years ago, and whenever I stayed at my great grandma's house, he would show me his new tattoos when he was around," Lieutenant Commander Stuart said.

"When he showed me his Popeye tattoo I told him that if I joined the Navy, one day I would get the same, and that is exactly what I did.

"The Popeye tattoo reminds me of my family's connection to the Navy and makes me feel closer to family back in the UK."

A compass over a world map and the helm of a ship are tattooed on Lieutenant Commander Stuart's right shoulder.





ABOVE AND RIGHT: Able Seaman Matthew Hicks of HMAS Ballarat has a medley of tattoos, including a tall ship, lighthouse, map, compass and Kraken. Photo by Leading Seaman Shane Cameron.

LEFT: Lieutenant Richard Mingramm displays his 'Aussie Viking' tattoo at Fleet Logistics Support Element - Submarines aboard HMAS Stirling in Western Australia. Photos by Leading Seaman Richard Cordell.

The artwork marks his successful completion of the principal warfare officer course, one of the most challenging courses in Navy.

"I was looking for direction in life and had decided that focusing on my career was what I wanted," Lieutenant Commander Stuart said.

"The ship's wheel and compass represents the search across the world."

Principal warfare officers are employed at sea as the officer in charge of a ship's operations room where they control and direct all weapons and associated equipment, as well as personnel, to fight the battle.

Chief Petty Officer Lachlan Sommerville served as the Maritime Training Adviser in Timor-Leste for three years.

In honour of his time on the small island nation, he has tattooed Lafaek on his right calf, which means crocodile and is taken from the Timorese creation story of Lafaek, a crocodile that formed the island in a mythical time.

"Having spent many years in Darwin, I already

had a healthy respect for crocodiles and, as my posting drew to an end, it seemed fitting to commemorate my time in Timor-Leste with a tattoo," Chief Petty Officer Sommerville said.

"Lafaek was the obvious choice and this was endorsed by my Timorese comrades."

In Ballarat's operations room, Able Seaman Matthew Hicks has a medley of tattoos on both legs, including a tall ship, lighthouse, map, compass and kraken – a legendary sea monster in Scandinavian folklore.

"The lighthouse shines a light on my path and ensures my journey is clear of danger, while the map and compass is there to guide me on my journey," Able Seaman Hicks said.

"The ship is there because I love the look of the old-style tall ships – their elegance and style is something truly unique – while the kraken symbolises strength, adaptability and wit."

Coincidentally, Able Seaman Hicks got all of his tattoos in his hometown of Ballarat, Victoria.





# PERSONAL HISTORIES IN INK

Tattoos were once worn only by sailors, rebels, jailbirds or other 'rough men'. Today, they are more socially acceptable, though the Navy, Army and RAAF do still have rules governing their acceptability. Love them or hate them, traditional skin art is fabric to our maritime and military culture and the reasons for getting a tattoo are as varied and personal as men and women who wear them and the stories they tell.

LEFT AND BELOW: *Leading Seaman Nicholas Evans displays his tattoo in the Fleet Support Unit – West at HMAS Stirling, Western Australia. Photo by Leading Seaman Ernesto Sanchez. Image digitally altered by the photographer.*

RIGHT AND BOTTOM RIGHT: *Petty Officer Michael Crole displays his tattoo at the Submarine Escape and Rescue Centre aboard HMAS Stirling, Western Australia. Photos by Leading Seaman Ronnie Baltoft.*







ABOVE: Lieutenant Richard Mingramm displays more of his personal ink at HMAS Stirling, WA.  
Photos by Leading Seaman Richard Cordell.

ABOVE RIGHT AND BELOW: Lieutenant Shaun Logan displays his tattoo at the Navy Engineering Systems Centre – Stirling aboard HMAS Stirling in Western Australia.  
Photos by Leading Seaman Ronnie Baitoff.

## PERSONAL HISTORIES IN INK



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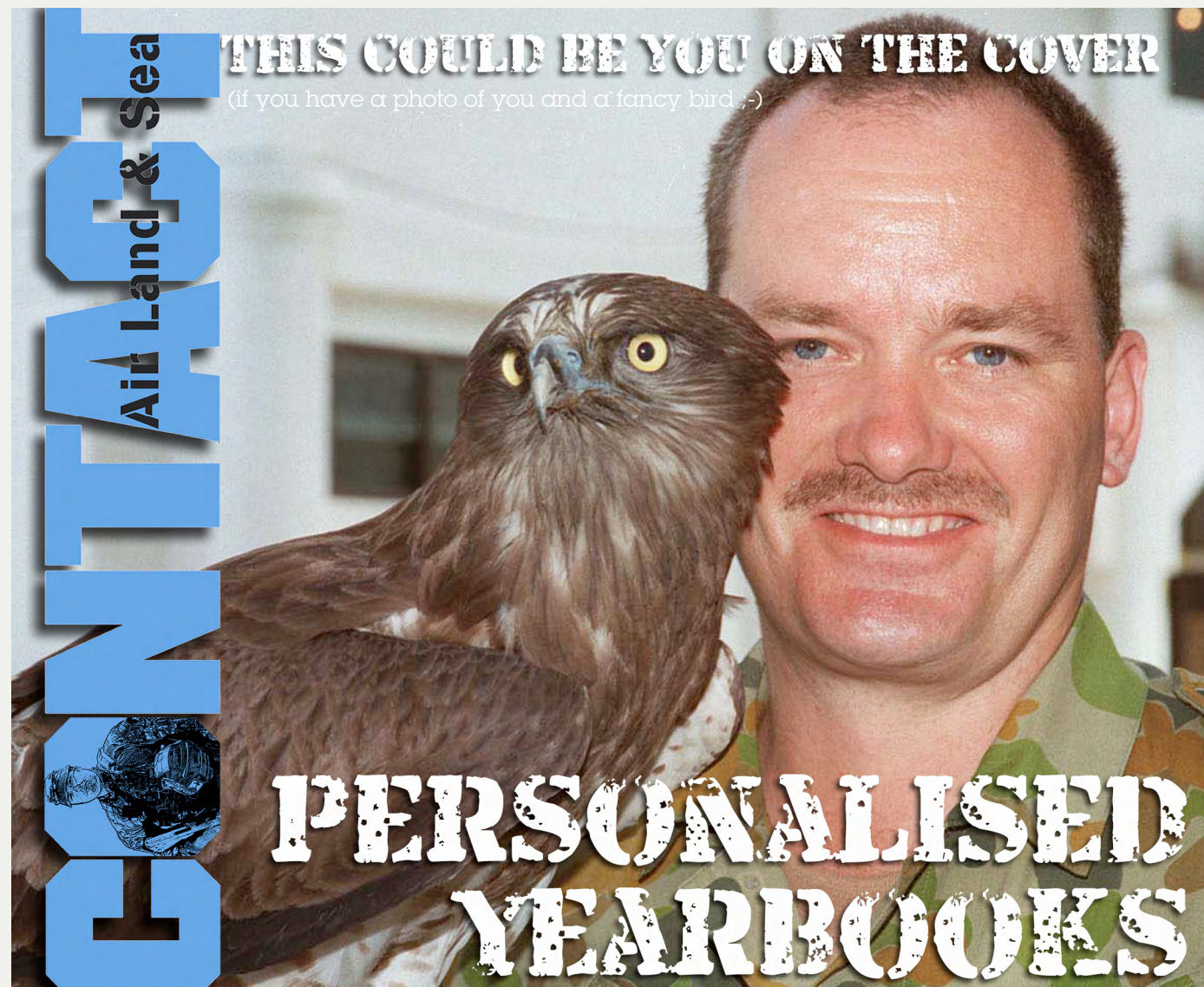




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# JUST SOLDIERS

BY MAJOR DARRYL KELLY

# GREAT SCOTT

## LIEUTENANT COLONEL ALAN HUMPHREY SCOTT DSO 56<sup>TH</sup> BATTALION AIF

Born on 3 April 1891 in Tumut, New South Wales, Alan Humphrey Scott showed staunch character from an early age. Preferring to be known by his middle name, Humphrey, he was a keen young student and was developing as a most competent athlete. With his father, the local Commonwealth Banking Company branch manager, being transferred back to the bank's head office in Sydney, Humphrey was able to attend the prestigious Sydney Grammar School, where he completed his secondary education.<sup>1</sup>

Securing employment as a clerk at highly reputable pastoral and agricultural brokers, Dalgety and Company, Humphrey was also able to continue with his love of athletics and his other passion, the military, when in 1909, he joined the local militia unit, the 1<sup>st</sup> Battalion of the New South Wales Scottish Rifles, and continued with them as a lieutenant to the 25<sup>th</sup> Infantry Regiment when the two units merged.<sup>2</sup>

With the onset of The Great War, Scott was one of the first to offer his services to the AIF, when he applied for a commission with the 4<sup>th</sup> Battalion who were forming in Sydney. His AIF commission as lieutenant was confirmed on 28 August 1914 and he was allocated firstly as the Second in Command of D Company and, with a promotion to captain on 18 October 1914, assumed command of the company.<sup>3,4</sup>

Scott and his two young platoon commanders Anderson and Ffrench, set about turning their 'ragtag' recruits into a well-disciplined and efficient team, ever-mindful that the key to success was to treat their volunteer troops with a level of respect and decency. It was a great recipe, with the analogy that Australian troops will always be led but never driven! To the chain of command, Humphrey Scott showed himself to be a competent, well-balanced leader who struck an excellent balance of courage and intellect. This would certainly be proven in the following April at a place called Gallipoli.

On the 24<sup>th</sup> of April the 4<sup>th</sup> Battalion made its way up the gangway of the transport ship Lake Michigan, ready for a 2300h departure. Once underway, the orders were opened and the platoons briefed on the landing. Following this, while some spared a quiet moment and made their separate peace, Scott and his officers mingled among the troops checking their personal kit and water bottles. Sleep was all but impossible, as excitement and or trepidation was rife, irrespective of one's rank. The destiny of the ANZAC landings were mere hours away.

It was well beyond dawn when the lines of empty landing boats were seen to approach the Lake Michigan. As previously briefed, the men of the 4<sup>th</sup> Battalion moved silently to their disembarkation stations. It would take until midday until all troops of the battalion were ashore, but they were not immediately deployed into the fight – instead, held back and readied to move forward when ordered and where needed most. They didn't have long to wait and, as the so called 'Australian front line' was nothing more than a series of hastily scraped pits with no mutual support or inter locking arcs, the forward elements were drawn back to establish a strong forward trench that was more defensible and allowed time for the units to get themselves sorted out, regroup and dug in. Until then the 4<sup>th</sup> was called upon to plug the gap on the left flank and tie in with the 8<sup>th</sup> Battalion, which was quickly consolidating. The rapid deployment of the 4<sup>th</sup> proved to be a lifesaver for the ANZAC beachhead.<sup>3</sup>

Humphrey Scott was in his element with his natural leadership and devil-may-care attitude inspiring the men. The only issue was the latter trait, as a number of times his somewhat 'bullet-proof' demeanour almost got him killed.

August 1915 and the breakout along the allied front was taking shape with actions planned from Cape Helles and to the ANZAC left flank with the intention



Lieutenant Colonel Alan Humphrey Scott,  
56<sup>th</sup> Battalion, AIF. Photo from the author's collection.

A crack from a single German rifle was all it took – then the cruel hand of fate did the rest...

of diverting enemy troop concentrations away from the intended beach landings at Suvla Bay, and the planned capture of the vital high ground around Chunuk Bair and the key terrain to its front.

Humphrey Scott and the 4<sup>th</sup> Battalion would be part of the 1<sup>st</sup> Australian Brigade feint against the strong Turkish position dubbed Lone Pine. In the early afternoon of Friday 6 August 1915, the attacking troops moved up to the dead ground in and around 'Brown's Dip'. Moving out into the launch position, the troops ensured they had the setting sun behind them, to aid in the attack and dazzle Turkish eyes. Scott moved around his troops, shaking hands, giving a gentle slap on the back and even a wide, bright smile. 1730 hours and the 1<sup>st</sup> Brigade were poised for the charge. A hundred sets of eyes scanned the faces of their watches and the officers silently mouthed out the declining seconds. Then the shrill squeal of whistles sent the troops on their way – to destiny or perhaps destruction.

Reaching the trenches, the 4<sup>th</sup> was surprised to find them not the normal open design. Instead, these were heavily roofed with large pine logs.

"Keep moving forward, keep moving forward," Scott urged.

Finally hitting the support trenches, the Aussies were able to drop down and hit the Turks from behind, while some stopped short and prized up the logs with bayonets, rifles or bare hands, and dropped into the murky gloom.

Bayonets, rifle shots, bombs, knives, clubs and even fists, filled the darkened trenches with the sounds of close-quarter combat, with neither side

willing to give an inch of ground. Command came from whoever seized it and Scott was tasked to immediately build two bomb-blocks<sup>5</sup> to provide some security while the ANZACs in the immediate area could try to sort themselves out.

Scott was then tasked to move forward and assist to consolidate another Aussie post, which was in danger of being overrun. Jumping the barricade, he yelled – "Who's coming with me?" Two men immediately followed their officer.

Running along the trench, the trio came across a bunch of startled Turks. Immediately, Scott fired into the group killing three or four and sending the others scurrying.

Thanks to Scott and his two stalwarts, the Aussie front had now advanced 20 metres and had to be held. Hastily building a temporary bomb-block, Scott began throwing bombs, while the other two moved forward to a bend to block any Turks from making a counterattack. Scott continued to lob as many bombs as possible, irrespective of their nationality. The bombs had to be thrown to Scott from across an unsecured trench junction as a Turkish machine gun had a clear arc of fire down the unsecured trench, making it impassable.

Other Turks concentrated on neutralising Scott, as he was doing the most damage, but a well-aimed bomb from the officer landed squarely among the Turkish bomb throwers, silencing them immediately.

Scott was surprised by an Australian soldier who crept forward to make contact. He informed the officer of the locations of Aussie troops in an adjacent





# A SHAKE OF THE HEAD INDICATED THAT THE OTHER MAN WOULD NOT BE COMING BACK

trench. Scott knew that, with the new disposition of the nearby Aussies, both his and the previous bomb-block could not be held. He ordered that a new and more defensible block be built a short way back while he and his men held the Turks at bay.

When the new block was ready, Scott called his original team back in. Only one returned and, before Scott had time to ask, a shake of the head indicated that the other would not be coming back.

Other troops had sought refuge in the trench and Scott took them under his wing. Giving a quick and concise set of orders, he had the group ready to move behind the new position. The challenge was to not attract fire from the Turkish machine gun which threatened the trench junction, thus they would cross individually. With a tap on the shoulder, each soldier would throw his rifle over the barricade, dart across the open mouth of the trench and scamper over the parapet to safety, then the next and the next with Scott being the last. Luck was on Scott's side as, for some reason, the Turkish gun did not engage and the withdrawal was conducted without loss.<sup>6</sup> Scott's dash, bravery and leadership continued in the capture and consolidation of the Lone Pine trenches, when he personally led a bayonet charge.<sup>7</sup>

After days of savage combat, with so much of it hand-to-hand, Lone Pine was won. The challenge now was holding onto it.

Humphrey was promoted to the rank of temporary major on 10 August 1915 and took command of the 4<sup>th</sup> Battalion, to cover for the Commanding Officer who had been wounded and evacuated for treatment.

In October, Humphrey was informed that, for his outstanding efforts at Lone Pine, he had been awarded the Distinguish Service Order (DSO) and a Mentioned in Despatches (MID).<sup>7</sup> More importantly, Humphrey Scott's performance and leadership skills came to the notice of the official historian, Charles Bean – a good ally to have in your corner.

For the troops of the Australian 1<sup>st</sup> Division, who had been in almost constant contact with the enemy since the landings of 25 April, the arrival in early September of fresh troops – the men of the 2<sup>nd</sup>

Division AIF – was a great boost. For the exhausted 1<sup>st</sup> Division, this meant rotational evacuation to nearby Lemnos Island, to rest, refit and revitalise for a few precious days, before heading back to ANZAC for another go at 'old Johnnie Turk'. Humphrey Scott's confirmation to major came on 22 November.

With the evacuation of Gallipoli in December 1915, the 1<sup>st</sup> and 2<sup>nd</sup> Divisions returned to Egypt.

Lessons from Gallipoli had exposed a number of faults and weaknesses that would need to be addressed before the AIF was to move to France and Belgium, to take on the might of the German Army. But first, additional fighting formations would need to be generated in location in Egypt. To achieve this, the 16 infantry battalions of the 1<sup>st</sup> Division were split to form an additional two divisions – the new 4<sup>th</sup> and 5<sup>th</sup> Divisions, rounded out with fresh reinforcements from Australia, to bring all the divisions to full strength. In the meantime the new 3<sup>rd</sup> Division, AIF, was being readied back home in Australia. The 2<sup>nd</sup> Division was lucky, as they got to remain intact. Also, more and varied artillery and specialist units were required, and volunteers from across all ranks of the AIF were called for to man these new units.<sup>8</sup>

The 4<sup>th</sup> Battalion was split to become the new 56<sup>th</sup> Battalion of the new 5<sup>th</sup> Division. The old hands of the 4<sup>th</sup> were disappointed to be leaving the battalion after all they'd been through, but to be in a new push with 24-year-old Lieutenant Colonel Humphrey Scott as the boss, could only be a good thing.

Humphrey and his new officer, warrant officer and NCO cadre, now set about building a new battalion. It would take time, but time was a commodity in very short supply. The 56<sup>th</sup> was destined to take on a new enemy, in a new theatre of war, where neither side had made any appreciable gains in more than 18 months of fighting.

But the 56<sup>th</sup> did settle down to become a fine battalion, and its transition to life on the western front went fairly smoothly. They did their time in the trenches near Armentieres – appropriately dubbed 'The Nursery' – where they got acquainted with trench life, patrolling and even the odd trench raid.

Humphrey Scott gained increased confidence in his new role and, more importantly, the men of the 56<sup>th</sup> gained confidence in themselves as a fighting unit, from the leadership qualities of their Commanding Officer.

A real test for the 5<sup>th</sup> Division came on 19 July 1916 at a place called Fromelles. The attack, which was to be a combined British and Australian effort was designed as a feint to fix the enemy forces in place rather than be diverted south to the Somme where the main British attack was launched on 1 July.

The feint was disastrous in both planning and execution, as it was launched in the late afternoon over open ground, in full view of the enemy. This was ideal for the German forces to rain down a heavy concentration of fire onto the attacking Australian and British forces. By the end of the battle a mere 24 hours later, the 5<sup>th</sup> Australian Division had lost 5533 officers and men, of which 2000 were killed or died of wounds, and 400 Aussies were in German hands as prisoners.<sup>8</sup> The 56<sup>th</sup> got off relatively lightly, as they were allocated as the reserve for the 14<sup>th</sup> Brigade, suffering 29 killed.

Following their mauling at Fromelles, it would take the rest of the European summer before the 5<sup>th</sup> Division would begin limited offensive operations in order to regain its self-confidence.<sup>8</sup> Hard training, fair and firm leadership and rebuilding esprit de corps<sup>9</sup> were key factors in rebuilding the fighting prowess of any combat unit. This plan worked and worked well, as the 56<sup>th</sup> was able to launch a number of successful trench raids, which built confidence and re-established a very sound level of expertise.

During the period 29 to 31 March 1917, the 56<sup>th</sup> and its sister units of the 14<sup>th</sup> Brigade were deployed along the Cambrai Road near the French village of Doignies. This once humble village as well as others along the German defences had now been fortified and were part of the infamous Hindenburg Line. The 56<sup>th</sup> Battalion's mission was to capture and hold Doignies, while the 55<sup>th</sup> was to concentrate on the village of Louverval. Doignies itself was a challenge, but a beetroot factory, now heavily fortified and acting as an advance German post between Doignies and Louverval, needed to be

neutralised, to allow the 55<sup>th</sup> Battalion following up to hit the village proper.

Scott and his officers scoured maps and aerial photographs in an effort to find a suitable piece of ground to replicate as close as possible the ground they were going to attack. The nearby village of Fremicourt had just the site they needed. Scott had the area laid out with the key features they would encounter, indicated by flags. This included roads, trenches, woods, the beetroot factory and village.

On 1 April, he walked his officers and NCO's through the planned movement, the forming up point, the attack and the reconsolidation. Each company, platoon and section was briefed and practiced in their role and task in the action.<sup>8</sup> Nothing was left to chance!

At midnight both the 55<sup>th</sup> and 56<sup>th</sup> moved to their forming-up places, with three companies in line and the fourth in reserve. The 56<sup>th</sup> was up front and the 55<sup>th</sup> was in the same layout about 250m behind. During the pre-H Hour phase, Lieutenant Colonel Scott personally went by each company to ensure they were in the right positions and correctly orientated for the advance. He had even sent scouts forward to position wooden boards with luminous paint facing back to the advancing 56<sup>th</sup> troops, so as to keep them oriented and contained within their lines of advance. At 0400 hours, Scott gave the order for the battalion to move forward a further 200m to allow for the 55<sup>th</sup> to occupy the position that the 56<sup>th</sup> was now vacating. As units and sub-units jockeyed into position and tried to shake out for the assault, the situation started to deteriorate.

Various units began to fudge forward in timings or started off later than expected. En route, some went off the axis of advance, while some had missed the leading units formed up in the assembly areas and inadvertently ended up in front of the lead unit, rather than behind them when the advance commenced. Elements of the attack also assumed the troops they saw in the mist ahead were friendly, but they were in fact enemy and shots rang out across the battlefield.

Units now had to make the best of a bad situation and press on with the attacks as ordered. In the





A 'manipulated photograph' consisting of several photographs from the Battle of Zonnebeke, captioned, "An episode after the Battle of Zonnebeke. Australian Infantry moving forward to resist a counter attack. On the-extreme right a machine brought down in flames is burning fiercely. Our advance is supported by bombing planes, whilst the enemy is supporting his attack with a heavy barrage."

From the permanent collection of the State Library of New South Wales, catalogue record 423850.

By Frank Hurley.



melee<sup>11</sup> that followed, Scott had to adjust his plans on the move, forced to go through areas that originally were meant to be by-passed, and enemy counter attacks were repulsed. By the grace of God, the 14<sup>th</sup> Brigade units were able to seize and hold their two main objectives – at a cost of 484 casualties.<sup>10</sup>

Lieutenant Colonel Scott was a professional in every regard, and knew he couldn't change the past. But he could learn from the shortfalls and certainly do his best to train his battalion to overcome these shortfalls in the future.

The higher command also acknowledged his skills and leadership attributes by assigning him as acting Brigade Commander of the 14<sup>th</sup> Brigade during the commander's absence. He relished the opportunity and the challenge and continued to excel – and gained a further MID.

Late September 1917 and the 5<sup>th</sup> Division had been engaged in major actions in Belgium and was now poised for an attack on the heavily defended ground known as Polygon Wood. The division was tasked to assault through the woods with the objective being a key German defensive feature known as 'The Butte', with the 14<sup>th</sup> Brigade on the left of the advance, the 53<sup>rd</sup> Battalion leading the brigade formation with the 55<sup>th</sup> behind and to the left, and the 56<sup>th</sup> behind and on the right.

Again, Humphrey Scott made sure that his men were ready in every aspect. He had trust in his officers and men to remain focused and they had trust in their CO that he'd get them through.

For the 56<sup>th</sup>, the advance and attack went particularly well, including the capture of two key enemy pillboxes, one of which was later dubbed 'Scott's Post' and the battalion extending forward to gain additional vital ground.<sup>10</sup> The brigades were ordered to consolidate, dig in and defend the newly won positions.

At the end of the month, the exhausted Australian battalions were to be relieved, with the 56<sup>th</sup> due to be replaced by the 1<sup>st</sup> Battalion, Royal Welsh Fusiliers, which occurred on the night of 30 September.

Lieutenant Colonel Scott chose to remain behind when his battalion withdrew, to complete briefing the British CO, Lieutenant Colonel Dudley Turnbull, to walk him around the positions the following morning.

The Germans launched two unsuccessful morning attacks against the Fusiliers.

As Scott walked the positions with Turnbull, he pointed out the key features of the defensive layout, the access gaps in the wire and the key enemy positions.

Suddenly a single rifle shot rang out from a newly established German sniper position aimed at but missing the two officers. What the round didn't miss though, was the discarded British helmet lying on the edge of the trench. Hitting the helmet, the round ricocheted back through both officers, killing them both instantly.<sup>12</sup>

The loss of Lieutenant Colonel Scott was felt deeply by the men of the 56<sup>th</sup> and in fact the

entire 14<sup>th</sup> Brigade, with the Brigade War Diary showing: *About 9am this morning news came from the front line that Lieut. Col. Scott, DSO C.O. 56<sup>th</sup> Bn. had been killed. This is a most unhappy and unfortunate event and the loss of the fine officer will be very keenly felt, both by his Battalion and the Brigade. The event is doubly unfortunate since, in the ordinary course of events, Col. Scott would have been back with his Battalion in the Staging Area. It is indeed the fortune of war.*<sup>13</sup>

But there was also anger, as intelligence reports apparently showed that they knew of the sniper and the information simply had not reached either CO.

When news reached the men of the 56<sup>th</sup>, they quickly planned and dispatched a party that night to retrieve the body of the beloved CO, only to find he had already been buried, along with Lieutenant Colonel Turnbull.<sup>14</sup>

Bean's epitaph was simplistic – had he survived, Scott would almost certainly have risen to brigade command.<sup>10</sup>

Field Marshall Douglas Haig awarded Lieutenant Colonel Scott his third MID – Posthumously.<sup>2</sup>

Today, Lieutenant Colonel Alan Humphrey Scott lays at rest in Buttes New British Cemetery with Lieutenant Colonel Turnbull resting nearby.

#### NOTES:

- 1 College Street Heroes, Old Sydneians in the Great War
- 2 National Archives of Australia: B2445, WWI Service Records, Scott, Alan Humphrey
- 3 Fighting Fourth, Ronald J. Austin RFD ED, Slouch Hat Publications, 2007
- 4 In early 1915 the existing make-up of the AIF infantry battalions were realigned from eight to four. With this, Scott was reallocated to Second in Command of B Coy.
- 5 A bomb block is a hastily formed barricade, made from sandbags, empty ammo boxes, or even bodies.
- 6 Official History of Australia at War 1914-1918, Vol II, C.E.W. Bean
- 7 AWM 28, Recommendation Files for Honours and Awards, AIF, 1914-1918 War
- 8 Official History of Australia at War 1914-1918, Vol III, C.E.W. Bean
- 9 Definition of esprit de corps: the common spirit existing in the members of a group and inspiring enthusiasm, devotion, and strong regard for the honour of the group
- 10 Official History of Australia at War 1914-1918, Vol IV, C.E.W. Bean
- 11 Oxford Concise Australian Dictionary – melee – a confused fight or scuffle
- 12 Walking with the ANZACs, A Guide to Australian Battlefields on the Western Front, Mat McLachlan, Hachette, Australia, 2009
- 13 AWM 4 Australian Imperial Force unit war diaries, item number 23/4/18, 14th Infantry Brigade, October 1917
- 14 AWM 4 Australian Imperial Force unit war diaries, item number 23/73/21, 56th Infantry Battalion, October 1917



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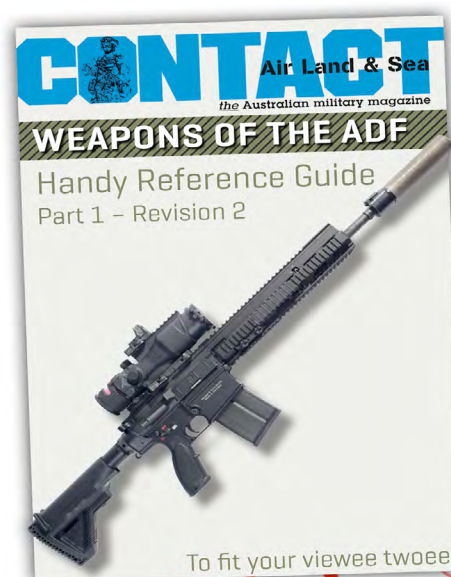




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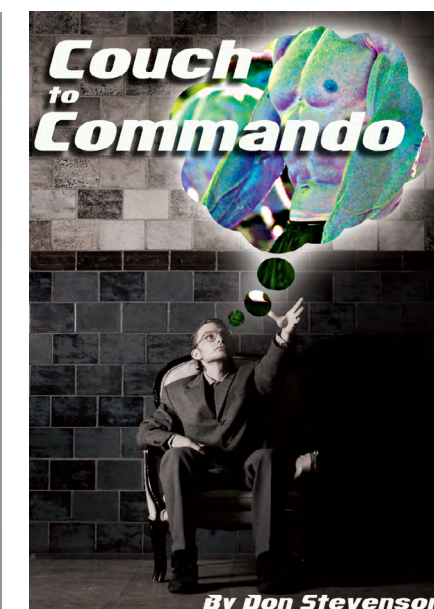
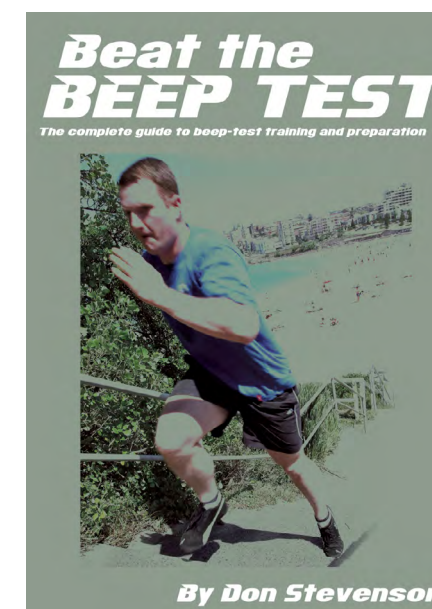
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# Australia Day 2021

Australian soldiers from 4<sup>th</sup> Regiment, Royal Australian Artillery, fire a shot as part of a 21 Gun Salute during Australia Day ceremonies at Jezzine Barracks, Townsville. Soldiers from across the 3<sup>rd</sup> Brigade participated in the city-council-organised 2021 Australia Day Flag Raising Ceremony, which included a Royal Guard of Honour for the Governor of Queensland.







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