

ISSUE 72



CONTACT

AIR LAND & SEA

DECEMBER 2021

the Australian military magazine



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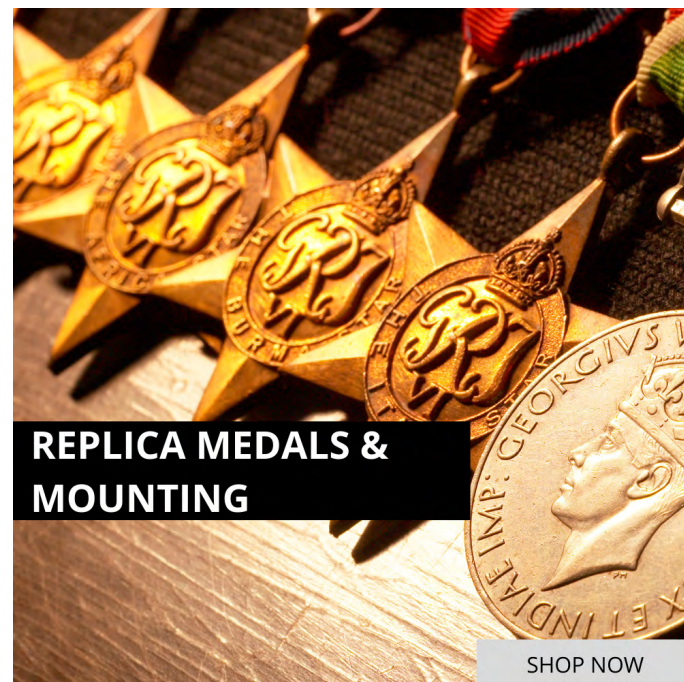
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A FINAL FAREWELL THE F/A-18A/B HORNETS

As the F/A-18A/B Hornets take their final flight with the RAAF, we farewell an iconic aircraft, the backbone of Australia's air combat capability for over 30 years. The much-loved multi-role fighter aircraft has been a marvellous aircraft for more than three decades, serving both overseas and at home and maintaining Australia's fighter capabilities. Since 1986 these aircraft have played an integral role with the RAAF and will be dearly missed.

As the final 12 F/A-18 Hornets complete a national farewell flight, we reflect on this remarkable aircraft. Celebrate this legendary fighter with stunning items to keep the Classic Hornets with you long after they have disappeared from Australian skies.



militaryshop.com.au/hornets



Issue 72 – December 2021

CONTACT
AIR, LAND & SEA



**COMBINED
ARMS IN THE
LITTORAL**

Photo by Corporal
Brodie Cross

Starts page 28

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appropriate.

This being issue number 72 of CONTACT Air Land & Sea magazine, it
is officially this little media empire's 18th birthday.

HAPPY BIRTHDAY TO US! HIP HIP HURRAY!!!

So much has changed over the past 18 years – not just for CONTACT,
but personally, for the ADF and the world.

CONTACT magazine is (since 2014) electronic only. Contact
Publishing has expanded to incorporate a very active web site, two
by-weekly newsletters, several social-media profiles and even a
second magazine – COMBAT Camera, produced on an ad-hoc basis,
but itself up to 18 issues.

CONTACT has also morphed from a loss-making business to a
time consuming hobby.

That last bit had a lot to do with my personal changes – my long
career in the Army (12 years full time and 12 years in the reserves) is
officially over and I am now an ageing warrior dealing with 'getting-
old-sux' issues – but loving life and the freedoms that come with
'retirement'.

And then there's the changes in the Army and the ADF over the
past 18 years, which are so profound as to make it albut impossible
for me to continue serving, even if I wanted to (and, while I did
actually want to in my heart, my head and body had other ideas).

So now, the closest I can get to serving Australia and the good
men and women of the ADF is to continue with this – producing
more issues of CONTACT Air Land & Sea and COMBAT Camera
magazines, and all the peripheral elements of my own little media-
empire hobby.

I hope you will continue to support me – and invite your friends
to come along for the ride too.

Sincerely,

Brian Hartigan,
Managing Editor



Indulging in my newest hobby

GRIFIN

A Royal Air Force C-130J conducts a nose-up break into the circuit at RAF Akrotiri, Cyprus.

This photo won first place, Category E – Current RAF Equipment and second place in the Peoples' Choice award – in the 2021 Royal Air Force Photographic Competition. More photos and story starting on page 38.

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HEADS UP

AUSTRALIA GOING NUCLEAR



US DoD graphic of a Virginia-class sub, by Ron Stern.

A number of new naval projects have been confirmed for South Australia, following the announcement in September of a new enhanced security partnership between Australia, the United Kingdom and the United States.

The most significant initiative under the strategic partnership, known as AUKUS, is Australia's new-found desire to own and operate nuclear-powered submarines.

It is the government's hope that substantial works on the new boats might be conducted in South Australia, though nothing concrete has been decided or agreed yet.

A life-of-type extension to the Collins-class submarine fleet, starting in 2026, has ostensibly been approved, with HMAS Farncomb flagged to be the first to undergo upgrade.

The government said the Collins-class upgrade work, as well as future full-cycle docking programs, would continue to be conducted at Osborne, SA – effectively killing off WA's lobbying for a slice of the business.

Both those programs are expected to cost upwards of \$6billion.

Another roughly \$5billion in upgrades to the Hobart-class destroyer combat management system is also scheduled to be conducted at Osborne from 2024.

Prime Minister Scott Morrison said the expansion of Australia's naval capabilities would strengthen national security, boost Australia's sovereign workforce and support thousands of jobs.

However, the breaking of the French-submarine contract and switch to nuclear may have left a significant hole in the planned continuum of skills enhancement

built into the government's 'National Shipbuilding Plan' (which has gone missing from the Defence web site).

Minister for Defence Peter Dutton, who was appointed to the portfolio just six days after the government locked itself into the French contract, said the announced investments would ensure Australia maintained a strong and agile submarine capability for decades.

"The Collins-class submarine to this day remains one of the most capable conventional submarines in the world," Minister Dutton said.

"The planned life-of-type extension, through the replacement of key systems, will help deliver Defence's strategic objectives.

"The upgrade to the Aegis combat management system will ensure our fleet of Hobart-class air warfare destroyers maintain their capability-edge into the future.

"Both of these projects are vital for Defence's ability to act with greater independence in an increasingly contested strategic environment."

Mr Morrison thanked the Attack-class submarine workforce, Naval Group, the Government of France and Lockheed Martin Australia for their efforts to date, but said accelerating changes to regional security made conventional submarines unsuited to our operational needs in the decades ahead.

To say the French were unhappy about the announcement – of which they claimed to have no advance warning – would be an understatement.

Mr Morrison said the decision to go nuclear was not taken lightly and was made in Australia's strategic interests.

SYDNEY II SURVIVOR ID'D

Eighty years after the Australian warship HMAS Sydney II was sunk off WA, the only body recovered from the tragedy has finally been identified.

New DNA evidence confirmed Able Seaman (AB) Thomas Welsby Clark, from New Farm in Brisbane, as the previously unidentified sailor.

HMAS Sydney sank on 19 November 1941, following an intense battle with German raider HSK Kormoran.

AB Clark is believed to be the only sailor to have made it to a life raft after the ship went down.

Despite surviving the battle and the sinking, he died at sea, his remains found near Rocky Point on Christmas Island nearly three months later.

DNA samples collected in 2006 have been extensively tested and matched to two living relatives.

Retired academic Leigh Lehane was surprised and saddened to learn her Uncle Tom was the unknown sailor.

"To be quite honest it was a bit upsetting," Dr Lehane said.

However, she said, establishing the truth was important.

"I am so grateful for the many, many people – well over a hundred – who helped ascertain the truth about his identity," Dr Lehane said.

She was born in July 1941, the month before her Uncle Tom joined Sydney, and according to a family story, he met his new niece on a final visit to Brisbane.

"He came and held me as a little baby. That's a very pleasurable thought because I don't think anyone else is alive now who knew Tom sort of eye-to-eye," Dr Lehane said.



A colourised studio portrait of S/4449 Ordinary Seaman Thomas Welsby Clark.

THREE MORE F-35s FOR 77

The Royal Australian Air Force has now received 44 of its planned 72 F-35A Lightning II Joint Strike Fighters after three more of the aircraft touched down at RAAF Base Williamtown on 18 November.

The newest aircraft to join the fleet were accepted by No. 77 Squadron, pilots from which flew the three F-35As from Eglin Air Force Base, Florida, through Hickam Air Force Base, Hawaii, on their way to Australia.

Commanding Officer No. 77 Squadron Wing Commander Tim Ireland said it was an important step for the squadron's growth after re-equipping with F-35As earlier this year.

"Our focus in 2021 has been to stand-up an F-35A combat-ready team," Wing Commander Ireland said.

"These additional aircraft will help us generate a ready force able to integrate into a high-end all-domain fight."

Before the transit to Australia, No. 77 Squadron participated in Exercise Lighting Spear 21 at Eglin Air Force Base.

Wing Commander Ireland said

Lightning Spear was an operational test activity for No. 81 Wing aimed at verifying weapons integration.

F-35A is the seventh fighter type operated by No. 77 Squadron – Kittyhawk, Mustang, Meteor, Sabre, Mirage, Hornet and now Lightning II.



Two of three new F-35A Lightning II aircraft taxi on arrival at RAAF Base Williamtown, NSW. Photo by Corporal Craig Barrett.

1RTB = 70

Kapooka, 'the home of the soldier', marked its 70th anniversary with a march-out parade on 12 November.

Around 60 of Australia's newest soldiers formally completed their initial training at the Blamey Barracks near Wagga Wagga, New South Wales, adding their names to the estimated 350,000 soldiers who have graduated from the 1st Recruit Training Battalion since 1951.

NEW CAPE-CLASS

The first of six Evolved Cape-class patrol boats was launched at the Austal shipyard in WA, in October.

Cape-class will replace Navy's Armidale-class patrol boats as interim platform until Arafura-class offshore patrol vessels are commissioned.

Austal has commenced construction on the remaining five boats, the first of which should be delivered in 2022.

10LH RE-RAISED

WA's 10th Light Horse Regiment (10LH) was re-raised in Perth on 10 October – the regiment's 107th anniversary.

A service and parade was held in Perth to re-raise the unit and honour its distinguished record, dating back to WWI and earlier.

Army is growing 13th Brigade cavalry-scout capability, equipping 10LH with 10 Aussie-built Hawkei protected mobility vehicles and increasing unit strength to 170.

CBRN FIELD TEST

Soldiers from 7th Combat Brigade trialled the ADF's new chemical, biological, radiological and nuclear (CBRN) protective equipment.

With training serials conducted in the Townsville Field Training Area, participants experienced the challenges of driving vehicles, doing patrols and search tasks while wearing level-4 protective equipment (gas mask, full CBRN suit, overboots, double gloves). Improvements to CBRN equipment include a new low-burden mask with better field-of-view, better straps and voice amplifier.

The new equipment should be fully rolled out across the ADF by mid next year.

CRAIG RANKS BOND

Actor Daniel Craig has been made an honorary Commander in the Royal Navy – matching his Bond character.

Commander Craig said he was keen to support Royal Navy personnel, particularly service families, and felt truly privileged to be appointed an Honorary Commander in the senior service.

WHISKEY IN USA

Australia's The Whiskey Project unveiled their WHISKEY Multi Mission Reconnaissance Craft (WHISKEY MMRC) to key US government and defense reps in Washington in October.

WHISKEY MMRC was purpose-designed, with US veteran input, and built to meet US DoD strategic maritime modernisation goals.

SMOKING BAN

UK MoD will go tobacco-free in the UK next year.

The policy is a prohibition on all tobacco products – combustible and chewing – within the perimeter of all Defence sites (except singles living-in and family accommodation).



Photo by Corporal Nicole Dorrett.

E-BIKE TRIAL

2nd / 14th Light Horse Regiment's (Queensland Mounted Infantry) is trialling 'stealth reconnaissance e-bikes'.

Deploying as a detachable element of the Boxer combat reconnaissance vehicle, the bikes have a top speed of 90km/h and range of 100km.

A report on the potential employment of e-bikes in combat brigades should be published shortly.

Soldier riders report the e-bikes to be "one of those things about the job that's exciting, fun and awesome".

HEADS UP



Photo by Leading Seaman Ernesto Sanchez.

NEW FLEET STALWART

The newest vessel in the Royal Australian Navy fleet was commissioned on 13 November at Fleet Base West, Western Australia.

HMAS Stalwart is the second of two Supply-class auxiliary oiler replenishment (AOR) ships purchased for the Royal Australian Navy.

HMA Ships Supply and Stalwart can sustain off-shore ADF assets with fuel, water, food, ammunition and a variety of other cargo for long periods.

Minister for Defence Peter Dutton said the new replenishment ships

would strengthen operational support to combat units at sea and increase the ADF's ability to support operations in our region.

"The AORs are equipped with a combat management system that improves information-sharing with other ADF and Allied assets, allowing them to integrate more fully in a task group in support of missions," Mr Dutton said.

HMAS Stalwart's ceremonial homeport will be in Geraldton, Western Australia.

LOYAL WINGMAN GOALS



Photo by Corporal Craig Barrett.

Australia's own Loyal Wingman program achieved some notable goals in its first year.

Following a successful first flight in February for the first airframe, a second aircraft also achieved a successful maiden in September.

In another first, the landing gear of a Loyal Wingman unmanned aircraft was raised and engaged during flight.

Head of Air Force Capability Air Vice Marshal Cath Roberts praised the efforts of the team involved.

Throughout the flight test missions, teams gathered aircraft performance data to be used to inform and refine a digital twin, with the view to accelerating program development.

"The Loyal Wingman uses on-board autonomous command-and-

control technology, tested both in the lab and in the field," Air Vice Marshal Roberts said.

"The team has tested the mission system in the lab by flying a live, digital copy of the entire aircraft design thousands of times.

"This advances the aircraft's 'brain' before we hit the flight range.

"Being the first is never easy – there are so many unknowns, so many hurdles.

"Loyal Wingman is a pathfinder for the integration of autonomous systems and artificial intelligence to create smart human-machine teams.

"The upside of being first is that you get to experience the rush of seeing your hard work lift off to the skies."

PRINTING PARTS

Australian company SPEE3D has been working with the Australian Army to test and validate metal 3D printing as a military capability and the latest field trial is the longest and toughest yet, taking place alongside exercise Koolendong in the NT.

The Australian Army announced a \$1.24 million investment in a pilot of SPEE3D technology in 2020 with a 12-month trial of the WarpSPEE3D Tactical printer to test the feasibility of deploying metal 3D printing as a capability.

WarpSPEE3D Tactical printer can print large metal parts up to 40kg at a record rate of 100grams per minute.

A number of field trials in 2020 resulted in more than 50 case studies of printable parts and demonstrated that SPEE3D's WarpSPEE3D printer was robust enough to operate in remote Australian bushland and the program was extended in 2021 to verify initial results.

NEW RTV



A family-owned engineering company in Port Macquarie, NSW, has been awarded an \$8.47 million contract to deliver the ADF's next generation rough-terrain vehicle fleet.

Bale Defence, who provided the first generation of rough terrain vehicles to the ADF, has been contracted to build and supply 40 next-gen vehicles.

Minister for Defence Industry Melissa Price said rough terrain vehicles provide an important tactical, light, all-terrain land capability used by the ADF on operations and exercises in Australia and overseas.

"This contract ensures Australia can continue to manufacture, modernise and enhance this critical capability locally, to meet our Defence Force's evolving requirements," Minister Price said.

KIT UP AND GO



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WINGS



A21-018 conducts an aerial display in Townsville during Exercise Talisman Sabre 21. In celebration of their mascot, the Australian magpie, No. 75 Squadron applied a black and white commemorative paint scheme to F/A-18A Hornet A21-018.

The aircraft was scheduled to sport its new colour scheme until retiring, ahead of the squadron's transition to F-35A Lightning II in 2022. The squadron adopted the magpie as its mascot because it is a belligerent defendant of its young with the courage to attack. No. 75 Squadron operates out of RAAF Tindal in the Northern Territory.



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JAPANESE WARSHIPS

IN DARWIN

PHOTOS BY
BARRIE COLLINS

Two Japan Maritime Self Defence Force ships pulled into Darwin in mid September for a goodwill visit and to replenish supplies after recent exercises in our region.

CONTACT's man in the north Barrie Collins was quickly on the water to snap a couple of photos of this special and unannounced arrival.

"We were expecting them about 10 or 10:30 but, as I was loading up the boat, my mate called and said that they had arrived early and one was already docking – so it was a mad rush," Barrie said.

"Anyway, they are both classed as destroyers.

"The Kaga, DDH-184, is an Izumo-class multi purpose 'helicopter destroyer' built in 2017 with a crew of 900 plus 500 marines.

"It can carry a combination of assets including MV-22 Osprey, Seahawk helicopters and 50 or so vehicles.

"It has been modified to also carry fixed-wing aircraft, namely the F-35B.

"It has a maximum speed of 30 knots and is 248 metres long.

"JS Murasame is the lead destroyer for the JMSDF.

"She was commissioned in 1996, has a crew of 165, and carries one SH-60 anti-submarine helicopter.

"She is armed with a 76mm front gun, two triple torpedo tubes, two 20mm Phalanx, eight anti-ship missiles and 16 Sea Sparrow surface-to-air missiles.

"She also has a top speed of 30 knots."

Barrie Collins was on hand again to grab a few photos as the ships left Darwin and said it was very odd that there hadn't been a word in the media about the visit.

Even Defence's report on the ships' interactions with Royal Australian Navy vessels near Darwin [published after their departure] didn't mention the port call...

"HMA Ships Maitland and Maryborough farewelled Japan Maritime Self-Defense Force (JMSDF) helicopter carrier JS Kaga and destroyer JS Murasame with a formation sail in the waters just off Darwin this last week", an official Defence statement said.

SURPRISE/SECRET(?)

VISITORS

"Kaga and Murasame are deployed together to train and exercise with partners in the region.

"After taking part in Exercises Talisman Sabre, Pacific Vanguard, ARC-21 and La Perouse, they joined the two RAN Armidale-class patrol boats during Exercise Malabar.

"Sailing in column and exercising with the JMSDF was a unique opportunity to strengthen interoperability and reaffirm the longstanding friendship between the RAN and the JMSDF.

"After detaching Maryborough at outer harbour limits on September 18, Maitland and her crew engaged in a series of officer-of-the-watch manoeuvres with Kaga, demonstrating professional ship handling and close-in manoeuvring between the 57-metre-long patrol boat and the 248-metre-long helicopter carrier.

"Maitland and Kaga also conducted an exchange of gifts via seaboot transfer.

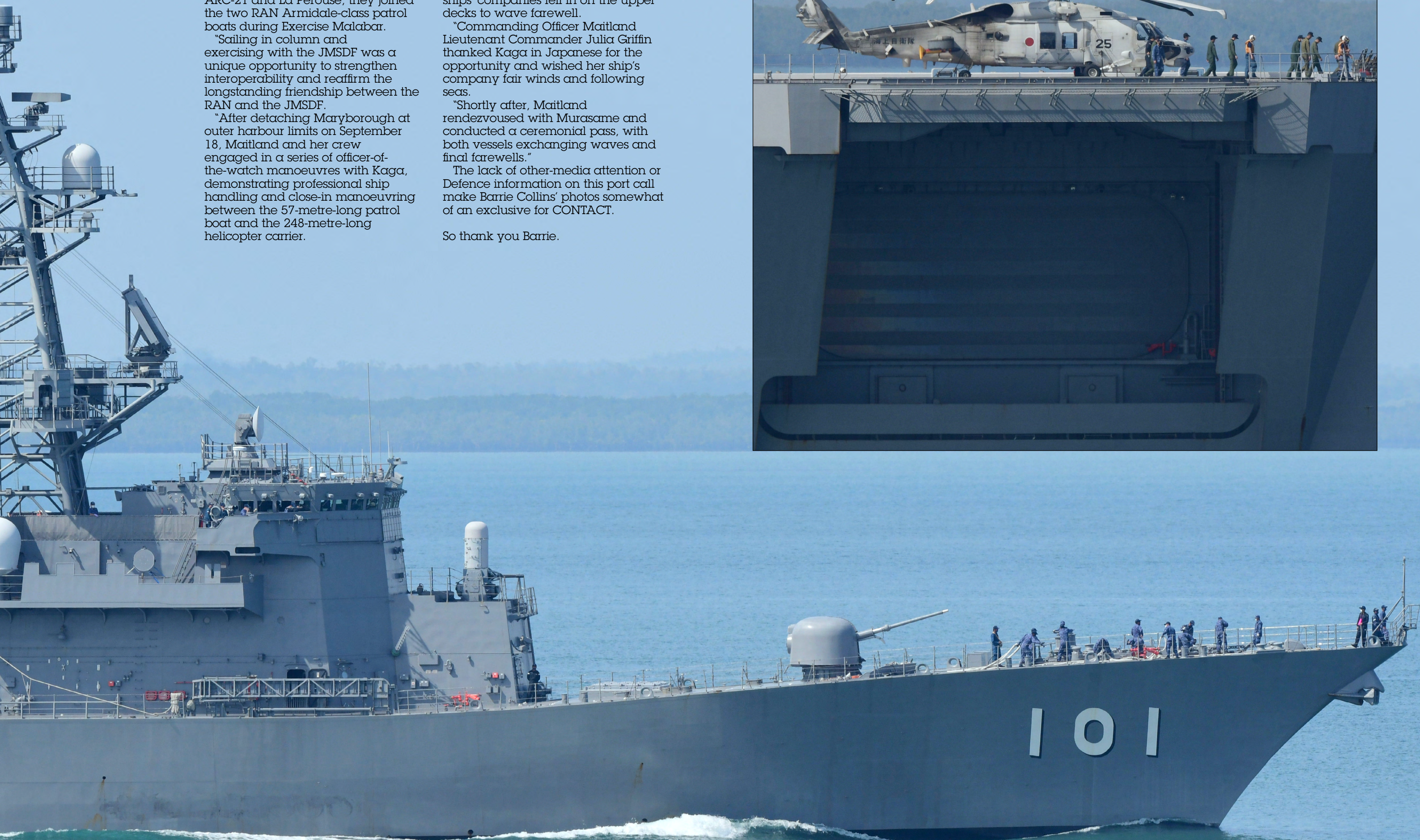
"They concluded the manoeuvres with a ceremonial pass, where the ships' companies fell in on the upper decks to wave farewell.

"Commanding Officer Maitland Lieutenant Commander Julia Griffin thanked Kaga in Japanese for the opportunity and wished her ship's company fair winds and following seas.

"Shortly after, Maitland rendezvoused with Murasame and conducted a ceremonial pass, with both vessels exchanging waves and final farewells."

The lack of other-media attention or Defence information on this port call make Barrie Collins' photos somewhat of an exclusive for CONTACT.

So thank you Barrie.



KOOLENDONG

PHOTOS BARRIE COLLINS WORDS ADF



'MOST INTENSE EXERCISE
IN 10 YEARS OF MRF-D'

More than 2000 troops from the Australian Defence Force and Marine Rotational Force-Darwin (MRF-D) completed a high-end live-fire warfighting exercise at Bradshaw Field Training Area in the Northern Territory in September.

Commander 1st Brigade Brigadier Ash Collingburn said Exercise Koolendong confirmed the ability of United States and Australian forces to quickly respond to crises in the region if needed.

"Exercise Koolendong was the culminating activity of MRF-D 2021 and a key training event for the Australian Army's 1st Brigade in enhancing security cooperation between USMC and the ADF through combined-arms live fire," Brigadier Collingburn said.

"It is a tangible demonstration of ADF and USMC capability to respond to a crisis in the region as a coalition-force land component with an integrated coalition command structure."

Commanding Officer MRF-D Colonel David Banning said Koolendong demonstrated that the US and Australia alliance was as strong as ever.

"The ability of MRF-D and the ADF to conduct this exercise during a pandemic is testament to the strength of our partnership," Colonel Banning said.

"We've brought together all the assets of a Marine air-ground task force and an equivalent ADF force, including more than 2000 troops, 500 vehicles and 20 airframes."

"The Australia-US Alliance has never been more important as we look ahead to our shared strategic challenges in the region," Colonel Banning said.

KOOLENDONG

COMBINED MIGHT OF PARTNER FORCES

Throughout September, Australian soldiers, with the US Marines and sailors of Marine Rotational Force – Darwin (MRF-D), contested an area of operations under a combined command construct during Exercise Koolendong.

The contested area – Bradshaw Field Training Area – was renamed Bradshaw Island for the purpose of the exercise.

Commander of the combined task force (CTF) Brigadier Ash Collingburn said the training was the most integrated, realistic, high-end warfighting activity conducted in MRF-D's 10-year history.

"This year, we operated as a CTF, combining our significant combat and logistic capabilities to deploy to Bradshaw Island, destroy the fictitious enemy, hand over security responsibility to local forces and then redeployed to Darwin Island," Brigadier Collingburn said.

Planning for the activity was ongoing for about 12 months, with the final rehearsal of concept conducted and deployment orders issued in late July for the CTF's subsequent move to the island.

"Conducting this exercise at Bradshaw allows us to increase the complexity of our training, to incorporate US Marine aviation assets, challenge our logistic systems, and extend our medical support while integrating combined

Australian and US assets at every level, including within the combined task-force headquarters," Brigadier Collingburn said.

About 1500 Australian soldiers trained with a similar number of US Marines ahead of their final activity during this year's rotation – the combined live-fire-manoeuve activity aimed at defeating the enemy on Bradshaw Island.

MRF-D Commanding Officer Colonel David Banning said he was satisfied with the comprehensive planning and rehearsals before his US Marines departed into the field.

"The planning phase was complete and we looked forward to putting the plan into action as part of a combined force," he said.

Australian soldiers and US Marines rehearsed expeditionary bilateral, joint warfighting in a simulated archipelagic region laid over the 6600sq/km Bradshaw Field Training Area.

"Operating from Bradshaw allowed us to integrate the full range of US Marine Air-Ground Task Force capabilities as part of a combined task force," Colonel Banning said.

"For MRF-D, this exercise was the culminating event of a tangible demonstration of our ability to respond to any type of crisis or contingency in conjunction with our Australian partners."



TOP LEFT: A HIMARS (High Mobility Artillery Rocket System) vehicle moves into position for a fire mission.
TOP RIGHT: A High Mobility Multipurpose Wheeled Vehicle (HMMWV) – dubbed Hummvee or Hummer. A
BOVE LEFT: A Hawkei protected mobility vehicle – light, is escorted through a track plan.
ABOVE RIGHT: A Ghost Robotics quadrupedal unmanned ground vehicle – commonly referred to as a dog.
BELOW: A C-17A lands on a dirt airstrip.
PREVIOUS PAGE: An MV22 Osprey.
All photos by Barrie Collins.



KOOLENDONG

INTERNATIONAL STARS ON SAME SONG SHEET

Exercise Koolendong 2021 Combined Task Force 667 took on the Indigenous name of the fifth-brightest star in the Southern Cross – Ginan.

Pronounced "Gee-nan", the story behind the name includes a process of trading songs to verify friends before a ceremony.

Headquarters 1st Brigade Chief of Staff Lieutenant Colonel Mike Webbe thought the name was fitting for the Marine Rotational Force – Darwin and ADF Combined Task Force to represent the trusted relationship between US and Australian forces built during a decade of training together in Australia.

"Our aim during Exercise Koolendong is to further integrate our people, their skills and equipment, each year," Lieutenant Colonel Webbe said.

"Ginan is a perfect fit to encompass our long-standing, continued relationship."

The star, located 228 light years away, was accorded the Aboriginal name Ginan in 2018 by the International Astronomical Union.

In the dreamtime lore of the Wardaman people, the star represents a red dillybag filled with songs of knowledge, traded between trusted people to verify their friendship.

"When I learnt the story behind the star's name, I couldn't think of a better way to honour our First Nation's People and the country we train on, while highlighting what we are doing here alongside the US marines and sailors," Lieutenant Colonel Webbe said.

The Wardaman people's ancestral country is 145km south-west of Katherine in the Northern Territory.

The Southern Cross constellation is worn on the left shoulder of the ADF uniform and emblazoned on the unit logo of the Marine Rotational Force – Darwin.

CTF Ginan was a fully integrated headquarters of both forces, exercising command decisions during fictitious battles, all while administration, movement and support was coordinated at a forward operating base called 'Gwion'.

Pronounced Gee-on, it was chosen by exercise control staff for its relevance to the landscape within the Bradshaw Field Training Area, relating to a traditional style of Indigenous rock painting found in northern Australia.

An escarpment winds through the training area from the south-west to the north-east for more than 70 kilometres. Ancient artwork adorns the rock faces – which are protected sacred sites – throughout the 870,000-hectare training area.

This was the first time an exercise of this size was conducted in the area, with the combined force of around 3000 personnel able to extend its lines of communication, exploit surveillance data from unmanned aerial systems, and integrate long-range weapons serials during the culminating activity for the 10th Marine Rotational Force – Darwin.



Viewing the Bradshaw escarpment from an MV-22 Osprey, on the lift back to Darwin.

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COMBINED ARMS TRAINING

Words Captain Diana Jennings

Pics Corporal Brodie Cross



ABOVE: Australian soldiers from 1RAR and 2nd Cavalry Regiment, patrol a track at Cowley Beach Training Area, Queensland.

FRONT COVER: Private Tiger Jefferys from the 1st Battalion, Royal Australian Regiment, at the Jungle Training Wing, Tully, Queensland.

The days of jungle training at Tully being exclusive to light-infantry sub-units are a thing of the past.

Combat Training Centre (CTC) has successfully reinvented the traditional training event to enable Army's combined-arms teams to survive and thrive in the jungle, mountains, coastal and urban terrain typical of Australia's near region.

Troops from 1RAR's Ready Combat Team (RCT), roled as the Air Mobile Combat Team of the Australian Amphibious Force (AAF), commenced the new RCT Warfighter Exercise in the dense Tully jungle, completing a range of dismounted missions including reconnaissance, patrolling, rural-village clearances, ambushing, attacks and defensive actions.

Private Lucas Hinselwood, who recently returned from non-combatant evacuation operations (NEO operations) in Afghanistan, said the variety in complex training environments ensured their combat team was ready for any situation.

"It's been a good change going from the NEO operation straight into the jungle environment,

which practises our adaptability and our capabilities as well," Private Hinselwood said.

Exhausted after completing the training serials in harsh terrain, Private Hinselwood, who had stepped up as 2IC, credited his section for their cohesion and resilience throughout the exercise.

"They did an absolute cracking job working through the complex clearance – it's been hot and raining, not the best conditions, but during the hard times the section came together and kept up morale," he said.

"Being a brand-new section and watching how far we have come from the start of the exercise to where we are now, it's really good and I'm confident about where we're headed."

Following the initial deployment to the mountains, dense jungle and rural villages in Tully, 1RAR RCT air assaulted via a 5 Aviation Regiment MRH-90 Taipan helicopter to link up with M1 Abrams to practise combined-arms tactics in the close coastal country and urban villages.

LITTORALLY



CLOCKWISE (from top left): Breaching a room during a clearance patrol at Cowley Beach – soldiers from 1RAR and 2 Cav Regt, patrol a track at Cowley Beach – Lieutenant Luke Frawley, 1RAR, delivers orders at Jungle Training Wing, Tully – and, soldiers run to their next objective at Cowley Beach Training Area.

OC of the inaugural Regional Warfighting exercise, CTC's Major Daniel Farrands, stressed the importance of varying the training environment to best practise the agility, adaptiveness, robustness, resilience and cohesion of Army's rapidly deployable combat teams.

"We've already noticed the soldiers making a mental shift in the way they apply general tactics within these environments, and that in itself demonstrates they will be more adaptable and can easily transition from one terrain type to the other," Major Farrands said.

Officer commanding C Company, 1RAR, Major Matthew Hamill said he was keen to have his soldiers use a range of combined-arms elements throughout the exercise.

"The addition of armour and aviation assets provided a great opportunity for personnel to integrate and train closely with those elements we don't see on a day-to-day basis," Major Hamill said.

Observing the warfighter exercise, Commander 1st Division Major-General Jake Ellwood and

Commander of the Amphibious Task Group Navy Captain Phillipa Hay were impressed to see the RCT setting a foundation for future joint-force exercises.

"This is really important training and it's a great first step," Major-General Ellwood said.

"Moving into next year, these combined-team operations will then bring together our amphibious platforms to undertake ship-to-shore manoeuvres followed by high-end warfighting.

"It's fantastic to see teams coming together and learning how they would fight in a littoral environment."

Captain Hay was pleased to see the landmark exercise displaying the ADF's advancement towards training in complex amphibious environments.

"It's important that the ADF has a full range of capabilities that are deployable and supportable in the near region," she said.

"We need to take every opportunity we can to make sure that we are training the way we're going to fight and today is a demonstration of that."

RIVER FIRE



Story by Flying Officer Lily Lancaster
Photos by CONTACT stringer
Christabel Migliorini
(follow Chrissie on Instagram)

A C-17A Globemaster III from No. 36 Squadron at RAAF Base Amberley, conducts a low-level flight through the Brisbane CBD during the Sunsuper Riverfire 2021 event.



The atmosphere on the ground was electric as onlookers cheered and clapped as the ADF put on a spectacular show at Brisbane's Sunsuper Riverfire on September 25.

No. 36 Squadron C-17A Globemaster III pilot Flight Lieutenant Dirk Taylor said he was proud to have captained the 2021 flypast over the Brisbane CBD.

"We realise the importance of the flypast and putting on a show for the community," Flight Lieutenant Taylor said.

The Globemaster provided a unique spectacle, flying from RAAF Base Amberley over Mt Coot-tha and the NRL game being played at Suncorp Stadium, then headed south along the river at South Bank before repositioning to fly east along the Kangaroo Point cliffs towards the Storey Bridge.

Applause for the flypast was followed by more excitement as those gathered at South Bank awaited the arrival of helicopters from the Army Aviation Training Centre, Oakey.

When the ARH Tiger and MRH90 Taipan helicopters passed, kids jumped up and down, waving enthusiastically.

Captain Lucas Holt said he was honoured to be the flight lead for the ARH Tiger section.

"This was my last flight as an Army aviator, and what better way to say goodbye than seeing the excitement of the crowd as we flew our slow-speed handling manoeuvres," he said.

Both flying units spent hours planning and practising for the flypast, with Flight Lieutenant Taylor saying a lot of time was spent in the preparation phase to make sure the flight was safe.

"We surveyed the city and practised the flight in the simulator to make sure it was perfect on the day," he said.

Captain Holt said the preparation was necessarily a lengthy process to confirm all safety requirements could be met.

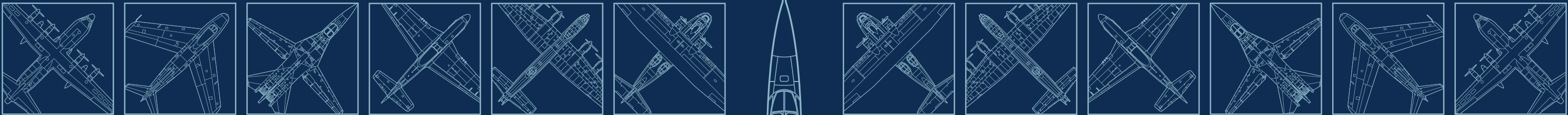
"We rehearsed all the procedures prior to conducting the activity in the actual aircraft.

"Our ADF aircraft have the ability to fly safely through the city at a low level and land in all different types of terrain.

"These skills provide assurance that we can serve the community effectively and help those in need.

"Riverfire was a great opportunity to demonstrate to the community what we can do and give back to the community that we proudly serve."





Celebrate six of the most iconic aircraft of the RAAF in this sensational collection.

Based on six original new paintings from leading Australian military aviation artist Drew Harrison, this limited-edition collection features a spectacular range of items, perfect for your home, office, or gifting.

The six iconic aircraft in this collection are the **F-111**, the **C-130 Hercules**, the **Lancaster Bomber**, the **P51-D Mustang**, the **Catalina**, and the **CAC Sabre**.

With stunning new artworks for each aircraft captured in vibrant colour by Drew Harrison, explore every range now and do not miss these limited-edition items.



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Explore the collection: militaryshop.com.au/iconic





FUTURE FLEET

The future of the Royal Navy and how it could further embrace autonomous technology, including drones, has been unveiled.

Led by a design challenge for young engineers from UK Naval Engineering Science and Technology (UKNEST), the Royal Navy will develop a Future Autonomous Fleet Programme that could shape how it operates over the next 50 years.

Stemming from the design challenge, the future vision envisages drones based in the stratosphere to be launched at a moment's notice; uncrewed fast attack crafts housing smaller autonomous boats; aircraft carriers propelled by both sea-based biofuels and wind power; and an underwater flagship at the centre of the fleet.

Other conceptual ideas include the increased use of artificial intelligence to assist with low-level planning, and underwater transport units carrying anything from munitions to food.

Although in the conceptual phase, the Royal Navy is on track to implement one of these futuristic visions into reality over the coming decade – The Persistent Operational Deployment Systems (PODS).

PODS are interchangeable modules that can be fitted to the surface fleet. Similar in design to a shipping container, the PODS create the idea of a 'plug and play' warship and will enable Royal Navy ships of all sizes to be more adaptable and versatile when deployed.

Delivered using innovative technology such as heavy-lift drones or autonomous boats, a ship will be able to receive the equipment it needs to be re-tasked quicker without the need to go into a port to collect it.

Large in size, the PODS will house assets vital to supporting Royal Navy operations. These may include an autonomous boat for surveillance and reconnaissance, quadcopter drones to deliver supplies, humanitarian aid and disaster relief stores or medical equipment. Versatile in their approach,

they have the capacity to become an additional medical room for service personnel at sea or a control centre for Royal Marines' operations.

Second Sea Lord Vice Admiral Nick Hine said that in a future scenario, if the Royal Navy found itself unable to compete traditionally in terms of mass, it must think differently if it is to regain operational advantage.

"The young engineers who worked on this project are thinking radically and with real imagination, and reflect how the Royal Navy is thinking too," Vice Admiral Hine said.

Outlined in the recent Defence Command Paper, the Royal Navy is focussed on investing in a more innovative and automated fleet. Enhanced by a £24 billion increase in spending across four years as announced by Prime Minister Boris Johnson last year, the Royal Navy will improve the sustainability, lethality and availability of its vessels.

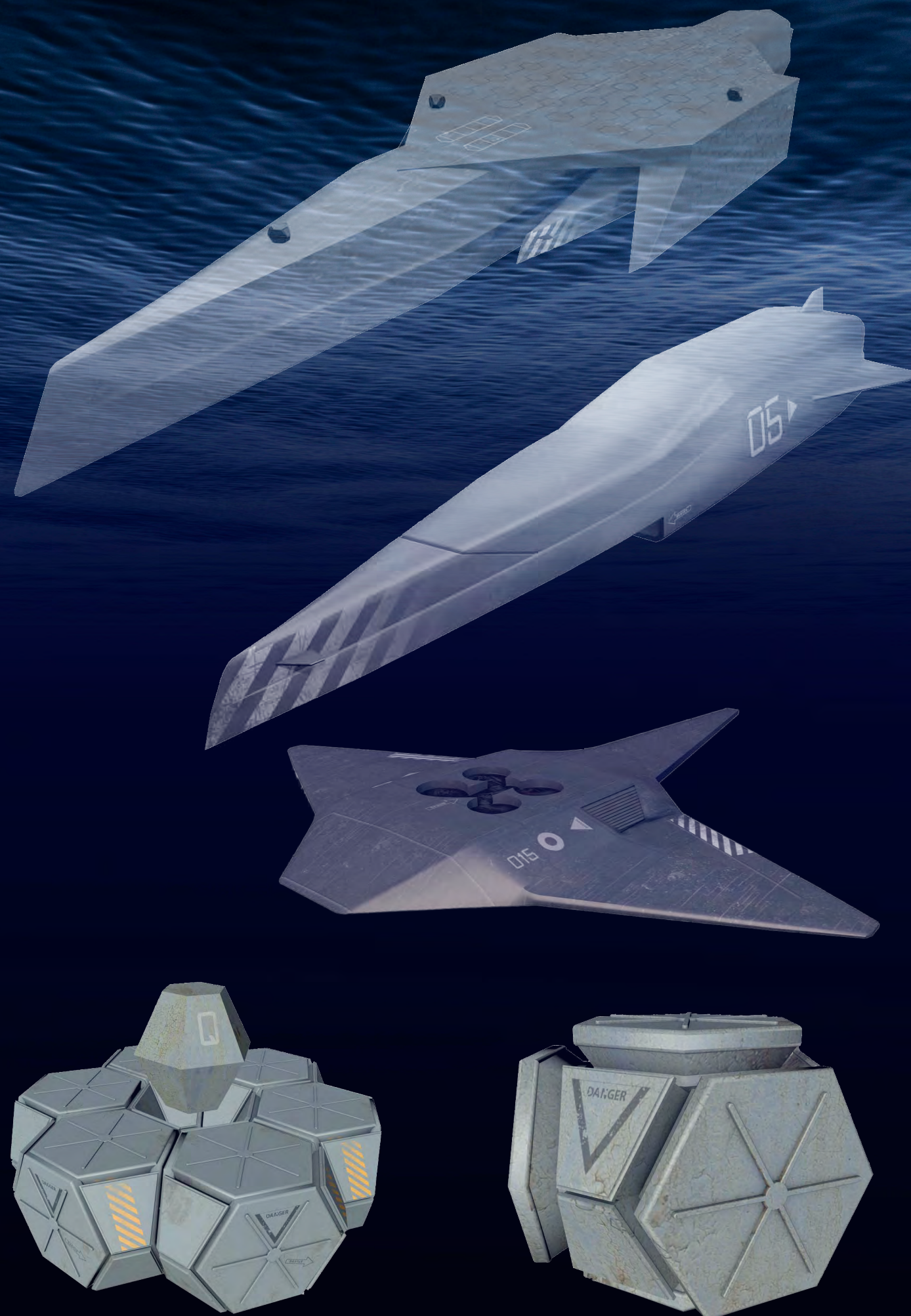
UKNEST young engineer, Fiona McIntosh said the collaborative nature of the project, coupled with the group being unconstrained in the ideas and technologies they discussed, really helped them base their concepts on technologies they thought would be key to innovation over the coming decades.

"The sessions were really interesting and it was great to see all of the concept designs in a presentation to senior Royal Navy officers at the end," she said.

"It was encouraging to see that the designs had some similar features and the groups had envisioned similar technologies being used by the future fleet.

"Hopefully we'll see some of our ideas incorporated into future platforms."

Supported by the future conceptual ideas, the Royal Navy continues to be at the forefront of maritime technology as it adapts to meet future threats and maintain competitive advantage.





MODULAR LIFE SUPPORT 'HABITABILITY PODS' ENABLING HUMANS TO ENTER THE PLATFORM



VERTICAL LAUNCH FROM SILO TUBES, INCLUDING SATELLITES MANUFACTURED ON-BOARD

FUTURE FLEET



DUAL HELIX WIND TURBINES MADE FROM MORPHING MATERIALS TO ALLOW FOR COMPACT STOWAGE AND SUPERSTRUCTURE

MORPHING RAMP TO AID TAKE OFF FOR HEAVY AIRCRAFT

MULTIPLE METHODS OF LAUNCH FROM DECK DEPENDING UPON SIZE OF VEHICLE

WEAPON STATION MODULES CAN BE EASILY UPDATED/REPLACED

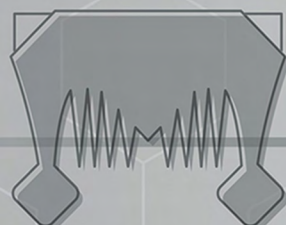
STATIONS FOR RF WEAPONS, LASER, HOLOGRAM PROJECTIONS AND RAIL GUNS

DOWNWARD LAUNCHING FOR MANNED SUBS AND AUV'S

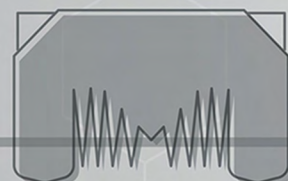
QUANTUM SENSING DEVICES AROUND VESSEL

ULTRA FAST METHOD OF PROPULSION - ROCKET

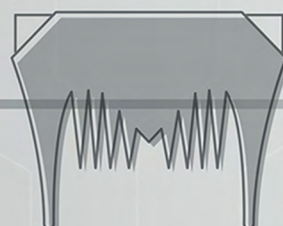
MORPHING HULLS



SWATH MODE FOR STABILITY



CATAMARAN MODE FOR NORMAL OPERATION



SEMI-SUBMERSIBLE MODE FOR STEALTH

ON-BOARD 3D PRINT MANUFACTURE OF WAU/AUV AND MAINTENANCE PARTS. WIDESPREAD USE OF BIODEGRADABLE MATERIALS

HORIZONTAL LAUNCH FOR AUVS / TORPEDOES

KITE FOR 'ECO MODE' DOWNWIND

FORWARD FACING RAIL GUNS

GILL FINS TO EXTRACT HYDROGEN FROM THE OCEAN FOR POWER

STANDARD BEAM

INCREASED BEAM

● INCREASE IN VOLUME TO ACCOMMODATE FLUCTUATIONS IN PAYLOAD EG SPECIAL FORCES MISSIONS

● INCREASED BEAM ACHIEVED VIA MORPHING MATERIALS

CARRIER VESSEL

BASE STATION SITTING IN UPPER STRATOSPHERE VIA A HELIUM BALLOON WHICH COULD OPERATE FOR MANY YEARS

FAST STRIKE VEHICLE

FLAT STEALTH GEOMETRY

ROYAL NAVY 015

FAST RIB STYLE HULL
RAIL GUNS

NOISE ATTENUATION TECHNOLOGY

ROYAL NAVY 015
ROYAL NAVY 015

HATCH FOR SWARM DEPLOYMENT

HELIUM BALLOON MATERIAL DOUBLES UP AS A SOLAR ENERGY COLLECTING ARRAY

1

STAGE 1 FREE-FALL

ENGINE BOOSTS CRAFT TO HYPERSONIC SPEEDS FOR FAST RESPONSE

WINGS MORPHED INTO BODY FOR FASTEST FREEFALL

2

STAGE 2 GLIDE

ROTATION

WATER SURFACE SKIMMING
PROJECTILE LAUNCHED FROM
FORWARD FACING RAIL GUNS

STAGE 3 SUBMERGED STEALTH

3

WINGS EXPANDED FOR MAXIMUM CONTROL DURING GLIDE

ENGINE POD CAN ROTATE FOR THRUST VECTORING

WING TIPS TURNED DOWN TO AID MANOEUVRABILITY UNDER WATER

4

STAGE 4 STRIKE

NOZZLES FOR STATION. KEEPING DEVICES POWERED BY SOLAR

SHORT RANGE DIRECTED ENERGY WEAPONS

FAST STRIKE VEHICLES DOCKED TO BASE STATION

MULTI-ROLE INTELLIGENT SWARM LAUNCHED FOR TARGETING AND ATTACK

FAST STRIKE



ROYAL AIR FORCE PHOTO COMPETITION 2021

Judging for the 2021 Royal Air Force Photographic Competition took place in October, with several categories producing stunning results.



This year's Royal Air Force Photographic Competition had seven categories – up from last year's four, thanks to COVID-19.

The categories were Personnel, Current RAF Equipment, RAF Operations and Exercises, the Mallett Student Trophy, Section Portfolio, Video and, of course, the Peoples' Choice.

Nearly 1500 images and more than 50 videos were submitted across the competition's categories,

with the best nine images chosen by the judges going head-to-head in the Peoples' Choice category, where the general public could vote via the Royal Air Force's official Facebook page – and the winner was SAC Dafydd Lewis' Flying Home (above right).

With space limited, the "CONTACT Editor's Choices" are presented in this spread, with our 'winner', Corporal Lee 'Matty' Matthews' photo 'GRIFFIN' published on pages 8/9 of this magazine.

CONTACT Air Land & Sea – Issue 72 – December 2021



RIGHT: "Flying Home" – 1st Place Peoples' Choice and 3rd Place Category E – Current RAF Equipment – RAF Typhoon Display Team aircraft, BLACKJACK. By SAC Dafydd Lewis.

LEFT: "Mind Over Matter" – 1st Place Category C – Section Portfolio – an RAF Voyager refuelling aircraft in the Middle East on a takeoff roll. By Cpl Lee 'Matty' Matthews.

Adding to that 'Current RAF Equipment' category win (and the "CONTACT Editor's Favourite"), Corporal Matthews also won the RAF Operations and Exercises, and the Video categories.

Other winners were SAC Craig Williams in the Personnel category; the Joint Air Delivery Test and Evaluation Unit Photo Section won the Section Portfolio; and, SAC Amelia Turnbull took out the Mallett Student Trophy.

Find, like, share at [f](#) [t](#) [p](#) [y](#) [i](#) [w](#) and [e](#)

This year's judges, with a mountain of quality work to get through, were WO2 Jamie Peters, British Army photographer, LPhot Dan Shepherd Royal Navy photographer, Imperial War Museum Senior Curator of Photography Hilary Roberts, editor at The Warzone blog Thomas Newdick, picture editor of The Telegraph Matthew Fearn, head of the Royal Air Force photographic trade, WO Andy Malthouse and Mrs Pam Mallett.



MAIN: "Just Hanging" – 1st Place Category C – Section Portfolio – Sergeant Neil Flannigan, Parachute Test Team, prepares for a jump. By SAC Kitty Barratt.

ABOVE: "Family Portrait" – no placing, Category B – The Mallett Student Trophy – five images combined, silhouetting the photographer's family. By SAC Aeris Finney.

BELOW: "Back to the Office" – 3rd, Category C – Section Portfolio – an 84 Sqn crewman supporting personnel from Ayios Nikolaos Station, British Forces Cyprus. By Corporal Phil Dye.

All images © UK MOD Crown copyright 2021



Hilary Roberts said this year's entries reflected the RAF's huge contribution to British life as well as its core role of keeping British skies safe. "Congratulations to all winners and entrants on an excellent standard of photography in an exceptionally challenging year," she said. WO2 Peters said picking the top images from the many submitted was a real challenge. "The standard of entries were as technically excellent as they were varied, showing the diverse range of tasks the RAF and its photographers do all over the world," WO2 Peters said. "From support with the COVID pandemic at home to operations abroad, the photographers have captured it all. "As a fellow military photographer, I looked for images that made me wish I had taken them and there were many that fell into that bracket, which made my job all the more difficult. "Well done to everyone who entered."



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Discarded by his own country, former soldier Zach Kryton thought the days of risking his life hunting bad guys in the dark corners of the world were over. Called back into action, Kryton soon finds himself surrounded by intrigue, espionage and action as he discovers that a routine operation exposes a conspiracy with global ramifications.

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BACK WITH A BANG



After a very nervous wait, Wings Over Illawarra Airshow went ahead as planned on 27-28 November – and action-hungry crowds were out in force to support it.

With the Australian International Airshow at Avalon, Victoria, first postponed then cancelled in 2021 because of COVID-19 worries, the annual Wings Over Illawarra had every chance of being a big deal in 2021.

"Sydney's air show" at Albion Park, 90 minutes south of the NSW capital, was itself cancelled in 2020 and bumped a couple of weeks in 2021, but eventually took off on 27-28 November.

And the crowds flocked in, relieved to be just recently set free from COVID restrictions and hankering for a good dose of aviation.

Unfortunately, the weather had a significant impact again this year, though it was rain rather than wind in 2021, moreso on Saturday, with the usual grassy carparks turning to bog.

On Sunday, when I attended (because I was surfing on Saturday:-), the rain threatened all day. We could see it pouring on the escarpment – and at times couldn't even see the cliffs for rain – but not a drop was felt at the airport.

This being about my 15th air show, it was going to take a lot to impress me – but impressed I was – especially by the size and apparent enthusiasm of the crowd and by the fast jets.

Aerobatics are always awe-inspiring and warbirds are beautiful and nostalgic to watch – but you just can't beat the noise and spectacle of fast jets to get the blood pumping.

And, while there were only two jets in the air, they certainly impressed.

The show was opened by an F/A-18A 'classic' Hornet – and I realised right away I forgot my hearing protection :-)

Ordered 40 years ago in November 1981, A21-44 from 75 Squadron in Tindal, NT, put on a great swan-song performance – on the day before her formal retirement.

About an hour later (the hour filled with slower, quieter aviators), F-35A Lightning II – A35-032 – flew in from RAAF Base Williamtown and put on a very similar routine.

Without hearing protection (and partially deaf to start with), I honestly couldn't say that the F-35 was louder than the F/A-18, but officially it is.

In any case, the drama and spectacle was right up there for wow-factor – and, I have to say it – she's a beautiful looking bird.

A good range of the quieter, slower performers kept the entertainment going for the next few hours until the same F/A-18 took to the sky again for a repeat performance.

This time, I was at a completely different vantage point – outside the wire, at the end of the runway – so, while the routine was probably the same, my experience was completely new and just as exciting as the first run.

Wings Over Illawarra is a great airshow – big crowds, lots of side-shows, food and entertainment – and a super impressive collection of (unfortunately) mostly ground-based displays belonging to the Historical Aircraft Restoration Society (HARS).

My only 'complaint' this year was the dissapointingly low RAAF support.

I really expected them to out-do their previous attendences, especially in this, their Centenary year, and especially with Avalon cancelled.

Just two fast jets (out of a promised six) and a static C-130J turned up – but no C-27J, C-17A, A300 MRTT, E-7A or P-8A – all of which were there two years ago.

Navy flew one helicopter (albeit a comparatively tame performance), with two on the ground.

While Mother Nature often seems to challenge organisers, Wings Over Illawarra is certainly worth the attendance, especially if you're an aviation enthusiast or just a vicarious thrill seeker.



AIRSHOW

wingsoverillawarra.com.au

LAST SHOW



Air Marshal Hupfeld also noted that the 'classic' Hornet had been a special aircraft for the Royal Australian Air Force, and an important piece of Australian aviation history.

"Hornet's first operational deployment was in November 2001 to May 2002 under Operation Slipper, following the 11 September 2001 terrorist attacks.

"The Australian government agreed to deploy F/A-18A/Bs to protect the major United States Air Force air base on the Indian Ocean island of Diego Garcia, which was being used to stage operations in Afghanistan," Air Marshal Hupfeld said. "In February 2003, it was my privilege and an honour to personally command the contingent of 14 Hornets and personnel from No. 75 Squadron that deployed to Iraq under Operation Falconer as part of Australia's contribution to the war on terror.

"This was the first operational combat deployment of Australian fighters since

the Korean War, and our aviators and aircraft performed above expectations."

Air Commander Australia Air Vice-Marshal Joe Iervasi, also an experienced F/A-18A/B pilot, reflected on the 'classic' Hornet's most recent operational employment, and the future of Australia's air-combat capability.

"In 2014 to 2018, F/A-18A/B Hornet squadrons were deployed on Operation Okra as part of the Global Coalition to Defeat Daesh.

"Once again performing above expectations, on Okra, the 'classic' Hornets flew 1937 missions, accumulating 14,780 flying hours and delivering approximately 1600 munitions," Air Vice-Marshal Iervasi said.

"While I'm sad to see this incredible aircraft end its role as a sentinel of Australian skies, it's an exciting time for the RAAF as we enter our second century with the F-35A delivering combat air power as part of a networked joint force, to assure the ADF's ability to deter or defeat threats to Australia's interests."

Some of Australia's F/A-18A/B Hornets have been sold to the Royal Canadian Air Force, and an American contractor, with a few retained for heritage.

After more than 30 years service in the Royal Australian Air Force, Australia's fleet of F/A-18A and F/A-18B 'classic' Hornets was formally retired on 29 November 2021, to make way for the F-35A Lightning II fighter.

The remaining few active 'classic' Hornets – that have been employed in the defence of our nation since 1985 – were farewelled by Minister for Defence Peter Dutton, Chief of Air Force Air Marshal Mel Hupfeld, Air Force aviators and industry partners at a ceremony and final flypast at RAAF Base Williamtown.

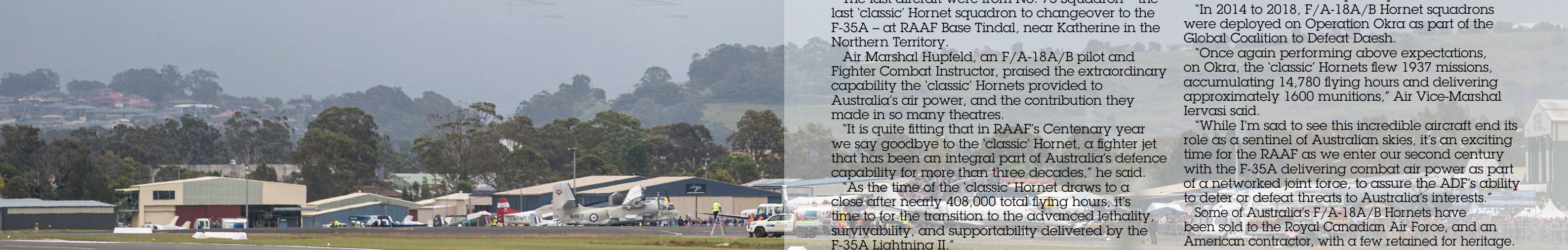
The last aircraft were from No. 75 Squadron – the last 'classic' Hornet squadron to changeover to the F-35A – at RAAF Base Tindal, near Katherine in the Northern Territory.

Air Marshal Hupfeld, an F/A-18A/B pilot and Fighter Combat Instructor, praised the extraordinary capability the 'classic' Hornets provided to Australia's air power, and the contribution they made in so many theatres.

"It is quite fitting that in RAAF's Centenary year we say goodbye to the 'classic' Hornet, a fighter jet that has been an integral part of Australia's defence capability for more than three decades," he said.

"As the time of the 'classic' Hornet draws to a close after nearly 408,000 total flying hours, it's time to for the transition to the advanced lethality, survivability, and supportability delivered by the F-35A Lightning II."

CLASSIC FAREWELL





ART PRIZE DONATED

RAAF veteran continues to give



When Royal Australian Air Force veteran Bene Cochran heard the news he had won a Then, Now, Always, RAAF Centenary three-frame Limited Edition Canvas Artwork, he was ecstatic – but immediately contacted the RAAF Museum at Point Cook, where he volunteers, to donate the artwork.

The original artwork was created by Drew Harrison, one of Australia's leading military aviation artists, and spans the first 100 years of RAAF, from its beginnings at Point Cook in 1921, through wars and peacetime, to the present and beyond.

The museum was delighted to receive the full-size museum-quality reproduction, which also bears a metal disc from A21-001, the first F/A-18A built and flown in Australia.

Managing director of BrandNet, the company that operates the official Air Force Shop and commissioned the artwork Stephen Davie said he was thrilled that Bene won the artwork, and humbled by his significant generosity in donating his \$4500 prize to the Australian community.

Bene Cochran first joined the RAAF in 1968 as a clerk stores accounting and was posted or attached to 17 bases in Australia and overseas.

He received many commendations and recognitions for outstanding service throughout his career.

He started volunteering at the RAAF Museum in 2006, sharing his enthusiasm for the RAAF with serving, veteran, civilian and foreign group tours.

Mr Cochran said he always wanted to be in the RAAF after being in the Air Training Corps at school (where his .303 was bigger than himself).

"The Vietnam War was in full swing, so I thought it was time," he said.

"I worked in a bank and then at QANTAS before joining the RAAF, but the Air Force gave me opportunities and a sense of teamworking, something I enjoyed throughout my career and now as a volunteer too.

"There have been lots of great memories – like Cyclone Tracy and the great way that officers, SNCOs and airmen and airwomen just got together no matter what branch or mustering and joined in.

"If something needed to be done, no matter what it was, we all teamed up and just did it.

"There was also the day I was promoted to Warrant Officer – a very proud day indeed – and to have my wife Tonia there, who has been a great support throughout my service career, is something I will always cherish.

"After retiring, I found an enormous hole was left in my life so, when we moved back to Melbourne, the RAAF Museum took me on and gave me the opportunity to share my knowledge and experience.

"I love to see school children and other groups' faces when they realise all this information was so worth the trip to Point Cook and the thanks I get from them seems to top off my Air Force career.

"The RAAF Museum is here to ensure the public does not forget the good and not so good times that RAAF has gone through – so, I could not think of a better place to display the Centenary Artwork, so everyone can see the magnificent fleet of aircraft that have filled our skies over the past 100 years."

THEN. NOW. ALWAYS.

ROYAL AUSTRALIAN AIR FORCE CENTENARY ARTWORK

LIMITED EDITION COLLECTION



Commemorate the historic event with the stunning limited-edition collection based on the work of esteemed military aviation artist Drew Harrison.

Commissioned to create an artwork that would truly memorialise this magnificent milestone, Drew created the sensational piece *Then. Now. Always. Centenary of The Royal Australian Air Force*. A masterpiece spanning the first 100 years of Air Force from its beginnings at Point Cook in 1921, to the present day and beyond, this artwork captures the spirit of the Air Force Centenary and is a modern masterpiece. Now, exclusive, high-quality, limited-edition items have been created to bring this modern masterpiece into your home and commemorate the Air Force Centenary.

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TALES OF A 24^{HR} OBSTACLE COURSE

Words Alexandra Baker
Pics Gavin Skene

As the first signs of dawn start to break around the valley, small head torches can be seen bobbing around the bushland surrounding us, like fireflies in the woods.

Taking a walk around the nearest obstacles to the Pits, the relief of daylight breaking can be seen on even the toughest competitors' faces.

Some are slowly putting one hand and foot in front of another, methodically hauling themselves across the traverse ropes. Others are edging up the rope climb, the little ding of the bell as they tap it at the top breaking through the frosty morning air. Others can be seen completing a 10-burpee penalty for failing an obstacle - up and down, up and down - getting it done.

The smoke from the small campfires the ADF cadets have lit mixes with the early morning mist and settles in the valley. The cadets are manning the obstacles - providing quiet words of encouragement to each passing competitor, offering up a jelly snake, having a joke with participants they've seen a few times throughout the night.

"This event really starts at midnight" one competitor tells me. "I mean sure, the starting gun goes off at 2pm, but the real challenge commences in the dead of the night. That's when you know you're stark raving mad for taking on this event."

That's when you put not just your physical but mental training to the real test."

I'm at the Aussie Titles 24hr Enduro, or just "Enduro" to those who frequent the event year-in, year-out.

Enduro is a 24-hour event, doubling as the Australian National Championships for obstacle course racing - or OCR as it's commonly dubbed.

The event is put on by True Grit, a veteran-born and - until recently - veteran-run obstacle-course-racing events team, who run events across Australia throughout the year. Their usual format is a 10km obstacle course, held annually in most Australian states, with the 24hr Enduro being their pinnacle endurance offering.

Held at the ever-pretty Dargle Farm in Lower Portland on the shores of the Hawkesbury, just outside Sydney, Enduro is an annual event - this year held in March. Traditionally the event has been held on the June long weekend, the bitterly cold nights and freezing cold dams around the property adding even more of a challenge for entrants. COVID wreaked havoc on the event in 2020 and so it was moved to March, where it will stay for now - the slightly warmer time of year proving more popular for the majority.

I watch as the runners enter the pit lanes. Another lap down - who knows how many to go. Pit crew





greet them in varying forms - some with mugs of hot noodles, others ushering them over to a chair to change shoes and replenish fluids, huddling around a whiteboard to talk strategy, lap times and game plans for the second half of the race - while others tag-team members in - sending fresh legs back out on the course to keep the momentum and laps ticking over.

The event runs in various formats: a Solo category with male and female divisions, or a team format with teams of two and four. The course is 11km long, with 30+ obstacles (32 in 2021). The idea is to complete as many laps of the course as possible within 24 hours.

So what is it that motivates someone to take on this kind of event? The common threads shining through as I chat to competitors and pit crew are camaraderie, testing limits, achieving long-time goals, and becoming a part of a small but very special community.

One competitor tells me how much it hurts, how it makes you question why you or anyone would want to do it, but at the same time leaves you desperate to sign up for the following year.

Another mentions the supportiveness of the other competitors, the inclusive atmosphere, the real sense of community.

This sense of community is evident at the medal ceremony later in the day, as cheers go up among participants for the podium placegetters. Their achievements are undeniable - first-placed solo male Jamie Hunter from Queensland clocked a staggering 14 laps - or 154km and 448 obstacles. First-placed solo female, also from the sunshine state, Robyn Koszta completed an amazing 11

laps - or 121km and 352 obstacles. The teams of two then take the podium - and cheers get even rowdier as the teams of four front up to receive their medals.

But it's not just the place-getters who are sore yet smiling - everyone in the audience has their own stories of triumph and achievement.

I chat to a guy who attends each year, each time with a new personal goal to achieve. In his first year, he did one lap and then pit crewed for the rest of the event - wondering how the hell people did more than one lap. In his second year, his goal was three laps. In his third it was five. Each year he shows up having learnt a bunch of stuff from the previous year and with specific goals in mind - fewer burpees, more obstacle completions, and of course, more laps.

I quickly realise that Enduro means something different for everyone - but everyone is brought together by the one motivator - the incredible personal challenge that a 24-hour event represents.

I leave Dargle Farm with a renewed sense of inspiration to set some goals of my own - and go after them. Whenever I'm hesitant to get out of bed to do that workout, I now think of those solitary headlamps bobbing through the bush, of that special group of Enduro participants who are getting it done no matter what lies in their path.

I'll be at Enduro again next year, but notepad and pen reserved just for recording my race strategy and progress. And just like that, I've been sucked into the world of OCR.

**More information can be found [here](#).
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SURFIN'S MENTAL



Army veteran Rob Knox rides his own surfboard, a present from his proud son – watched by Veteran Surf Project guru Rusty Moran.

Photos by Levi Cahill Photography

The Veteran Surf Project is helping former service members restore balance – on surfboards, as well as in their mental health.

The Australian-first program, which is the brainchild of former professional big-wave surfer Rusty Moran and with the backing of Keith Payne VC, uses surfing as therapy on the wounds of veterans suffering from depression and post traumatic stress disorder (PTSD).

"It's mental-health therapy disguised as having fun," Rusty says.

The free program at Seven Mile Beach, Gerroa, south of Sydney, has just completed its first year with grant funding from the Department of Veterans' Affairs.

In its first year, the Veteran Surf Project has done a classic 'under promise and over achieve', with more than 1300 veteran attendances by more than 100 veteran participants.

Each participant in the surf program is also a participant in a research study with the University of Western Sydney, filling out mental-health

"IT'S LIKE MEDITATION FOR DUMMIES"

surveys before session one and after session 10, and participating in an indepth interview after that 10th session.

But, more importantly, the Veteran Surf Project has already been credited with saving at least three veterans who were on family 'suicide watch'.

The Veteran Surf Project was organised with the support of retired Navy officer and Chairman of the Keith Payne VC Veterans Benefit Group Fred Campbell.

"This is just what our veterans need – learning a new sport in a low-pressure social setting, with time in the ocean to clear the mind and let everything else just wash away," Fred said.

Rusty Moran says he knew surfing could make a difference to veterans suffering PTSD, because everyone who surfs knows how being in the ocean calms your mind.

"It's like meditation for dummies", he says.

"We knew there were a heap of veterans in our local community with heavy PTSD and depression and we were hoping we could help in their recovery and allow some of them to climb out of that dark place of depression.

"Keith Payne looked me in the eye and said, 'This will grow into something special that will help our veterans and prevent suicide down the track'".

"So, to prove my faith in the concept, I had hoped we might save one life during the program this year – but we've actually heard from at least three veterans that we've done just that for them.

"That's huge – mind-blowing.

"And, while it is amazingly gratifying, there is also a huge responsibility behind it."

Rusty says that while the thrills of surfing may be the initial attraction to bring veterans together, there are deeper elements at play.

"The social connections, the feelings of achievement and of self-belief in overcoming

challenges, and the awareness that others are going through similar journeys can't be underestimated.

"Surfing is a difficult sport to learn, so the first thing we teach is how to fall off. Then you get back on and try again and keep trying until you get it.

"It's a bit like life that way."

One young ex-army veteran said "When I come here, I can be myself. It's the only place where I feel there's other people who 'get me', because I'm a veteran. I struggle to walk into Coles without feeling like a stranger, because I'm not a civilian. But when I come surfing, even if I feel like shit, I know I'll have a good time and just be around others who know what it feels like to struggle some days."

CONTACT Editor Brian Hartigan is also a participant in the Veteran Surf Project with 16 sessions under his belt, and agrees both the camaraderie and the ocean have improved his mental health considerably.

"I've never come across anything that can change my mood for the better so dramatically, so quickly," Brian says.

"One day in particular, I stumbled out of bed in a crap mood, dragged myself down to Gerroa, an hour late for the start of the session – and just two sloppy shore-breaks later, I was grinning like a Cheshire cat.

"They had to order me out of the water that day."

Another participant, Graeme Copeland, served in all three branches of the ADF and had an unrestricted pilots licence, but, when his PTSD became too severe, he had to give up his career and give up flying.

After taking part in the surf program and gaining confidence back, he is now halfway through the challenging task of getting his unrestricted pilot's licence again.

Army veteran Greg Williams has no doubt the Veteran Surf Project saved his life.



Vietnam veteran Gary Tearle showing off his new-found skills on a surfboard.



ABOVE (clockwise from top): Doug Rattey greets the camera like a real surfer. Greg Williams and Greg Symmans celebrate their 50th Veteran Surf Project session. Megan Cahill shreds a wave. Graeme Copeland and Tahnee Barnes discuss the finer points of a 'party wave'.

Suffering PTSD since his service in Iraq and battling the 'black dog' for years, he says he now sleeps well and wakes with enthusiasm.

"I'm a bit more like that Energiser bunny I was before I deployed – before my head got in the way."

His wife Ros agrees too.

"We've had our ups and downs over the past 10 years or so," she said in a moving interview for a mini documentary produced for the Veteran Surf Project, available to view on YouTube, [here](#).

"To come home and find that the person you love most in the world has tried to take their life – I can't explain – it's just surreal.

"After that, you're always worrying, 'he's late, where is he, what's he doing – is he even coming home?'"

"But I don't worry about that anymore – I know where he is. He's at the beach, surfing.

"I often joke now that I'm a surf widow – and that's the only kind of widow I ever want to be."

There have also been numerous stories of participants being able to either greatly reduce or in some cases stop the medication they have been taking for a variety of conditions for years.

Rusty Moran says one of the coolest stories for him has been 76-year-old Vietnam veteran, Gary Tearle.

"He thought he would 'give it a go' and might just use a 'boogie board'.

"But, after getting on the surfboard he has become addicted to the feeling of riding a wave on his feet.

"When he debriefed after his 10-week program, he said he has gone from only sleeping three hours a night – something he had experienced for almost 50 years – to now sleeping six hours every night.

"One of my proudest moments was watching Gary go through the course and seeing him catch a wave from out the back, getting up on his own and riding it all the way into shore – that was magic," Rusty says.

"As coaches, when we see someone struggle to get to their feet and finally do it and catch a wave on their own, we can't help but cheer and throw our fists in the air in celebration.

"That camaraderie is infectious. We are all cheering each other on – it's just one big family and is so special to be part of."

A number of the participating veterans have now become so in love with surfing that six members are qualifying as surf instructors, so they can pass on

their experience and become mentors and take on coaching roles for newcomers.

Rusty says, of the more than 100 participants in the program so far, about two thirds have continued to "hit the waves" – with two chalking up their 50th session recently.

"It will be interesting to see in the university study how the ones who completed the 10-week program and continue to surf maintain or improve the mental health benefits compared to those who don't continue surfing," he said.

So, where to from here?

The benefits of surfing as a therapy are being studied by the US Navy in a \$1million program. Here in Australia, the benefits on mental health are being studied by Western Sydney University which, in a global first, will also measure how long those benefits might remain or improve for those who continue surfing after the initial program compared to those who do not.

To do that, however, the Veteran Surf Project and the university research must continue.

Rusty says he is incredibly proud of what the Veteran Surf Project has been able to achieve in its first year delivering the program.

"However, having exhausted the initial funding from DVA for the pilot – and delivering substantially more than we initially projected – the search is now on for other funding to continue this groundbreaking work.

"There is still so much more to do – and I feel the burden of responsibility to keep this program going.

"We can already see lifechanging – indeed life-saving benefits and we need to secure more funding to ensure this amazing program can be an ongoing thing.

"While funding, support and interest in veteran mental health may ebb and flow, PTSD in veterans is not going to go away."

The Veteran Surf Project is now seeking public and/or corporate backing to cover the \$1500 needed to put each veteran through the 10-week program plus six months of follow-up lessons," Rusty says.

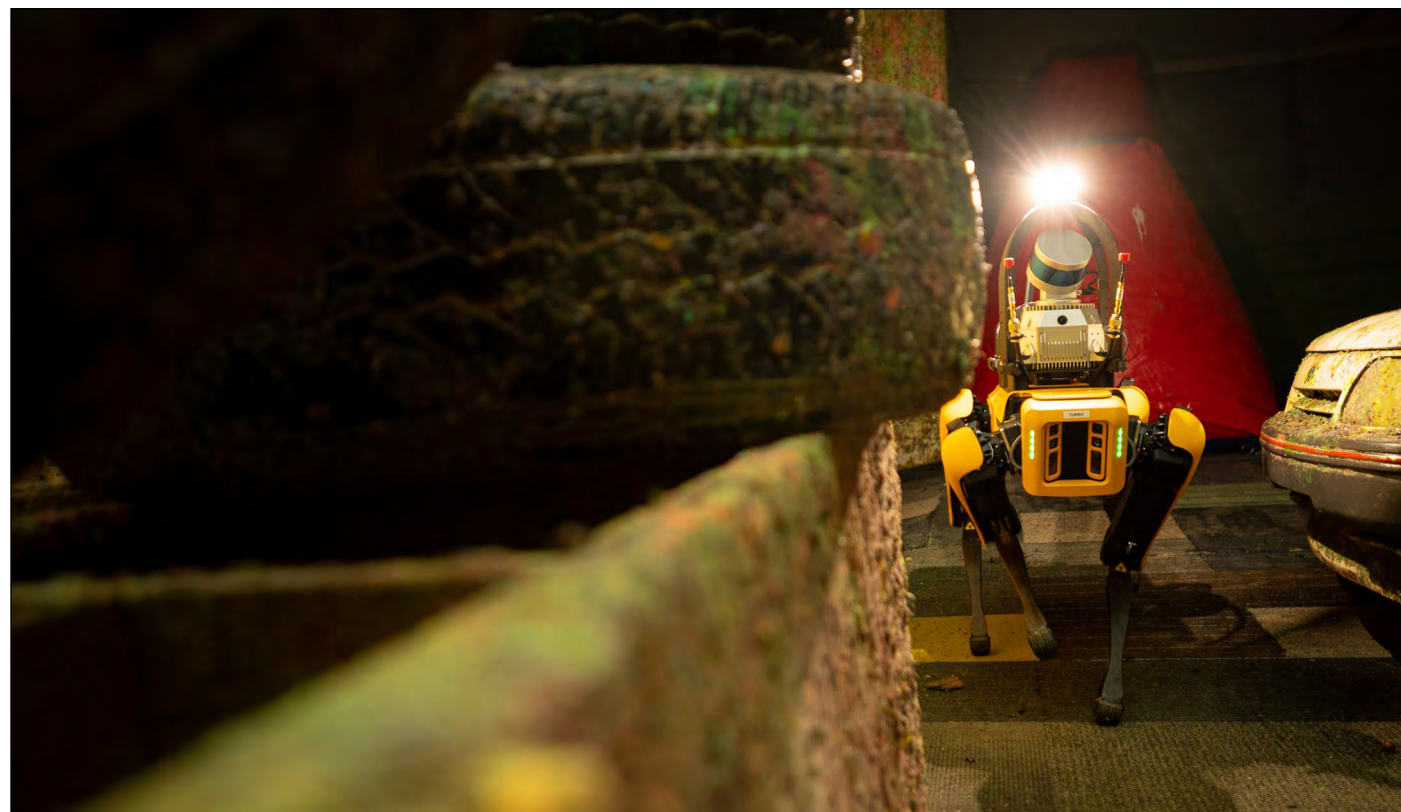
"It's not a huge amount but can make such a huge difference in a veteran's life – with benefits that flow on to his or her family too."

Tax deductible donations via the registered charity Keith Payne VC Veterans Benefit Group can be made at veteransurfproject.org

AUSSIE TEAM PLACES 2ND IN

ROBOT

OLYMPICS



Australian robotics experts led by national science agency CSIRO, beat teams from NASA JPL/MIT, California Institute of Technology, and Carnegie Mellon University in September to claim second place in a world-leading robotics competition dubbed the 'Robot Olympics'.

Organised by the US Defense research agency DARPA and spanning a three-year-period, the Subterranean Challenge was designed to push the boundaries of autonomous robotic technology.

Scientists were tasked with remotely running their robots in an underground environment that simulated a real-world scenario.

This included locating models representing lost or injured humans, backpacks, or phones, as well as variable conditions such as pockets of gas.

Points were awarded for correct identification and location of items, mapping the terrain, and maintaining autonomy and communications throughout.

The competition culminated in a final event held inside the Louisville Mega Cavern in Louisville, Kentucky. Watch the Australian team's final run, [here](#).

Made up of members from CSIRO's Data61, CSIRO spin-out robotics company Emesent, and the Georgia Institute of Technology, the team competed under the name 'CSIRO's Data61' and won the preliminary round before being awarded second in the final circuit, to collect US\$1million.

CSIRO's Robotics group leader and team leader CSIRO's Data61 Navinda Kottege said it was an amazing result.

"We are the first Australian team to place in the top two at a DARPA robotics challenge," Dr Kottege said.

"This cements CSIRO's place as a world leader in robotics and puts Australia firmly on the map in this increasingly important area of science.

"I'd like to thank team partners Emesent and Georgia Institute of Technology for their exceptional research and development and contribution to this amazing result."

The \$US1 million (\$AUD1.3) prize money will be reinvested into team CSIRO's Data61 research and development of Australian technology.

CTO and co-founder of Emesent Farid Kendoul said the achievement was great news for Australia.

"I am so proud of team CSIRO's Data61 placing second, and the contributions that Emesent made over the three years to advance the team's state-of-the-art robotics and showcase the capabilities of Australian companies on a global stage," Dr Kendoul said.

Director of the Mobile Robot Laboratory at the Georgia Institute of Technology Ronald Arkin said the Georgia Tech Mobile Robot lab was thrilled to have been team members with CSIRO and Emesent.



ABOVE: CSIRO's Data61 scientists prepare their robots for the final challenge in DARPA's Subterranean Challenge, otherwise known as the Robot Olympics.
OPPOSITE: 'Bingo' sniffs a path through a tunnel. Photos supplied by CSIRO.

"Our years of hard work together paid great dividends both intellectually and in camaraderie, and it is truly exciting to see the outcome," Professor Arkin said.

Dr Kottege said the team would now focus on translating the technology and capabilities developed from this project to solve some of Australia's greatest challenges.

The DARPA Subterranean or "SubT" Challenge seeks novel approaches to rapidly map, navigate, and search underground environments during time-sensitive combat operations or disaster response scenarios.

Complex underground settings present significant challenges for military and civilian first responders, with hazards varying drastically across domains, which can degrade or change over time and are often too high-risk for humans to deal with.

DARPA encourages participation from multidisciplinary teams from around the world to address the autonomy, perception, networking, and mobility technologies necessary to map subsurface networks in unpredictable conditions.

To attract a broader range of participants, DARPA's SubT Challenge includes both a physical systems competition as well as a software-only virtual competition, and prize monies totalling US\$5million.

Teams in both competitions compete in three circuit events that explore the difficulties of operating in specific underground environments – **tunnel systems** can extend many kilometres in length with constrained passages, vertical shafts, and multiple levels – **urban underground environments** can have complex layouts with multiple stories and span several city blocks – and, **natural cave networks** which often have irregular geological structures, with both constrained passages and large caverns.

Teams competed in three preliminary circuit events, several months apart, and a final integrated challenge course pursuing high-risk and high-reward approaches.

The final event put teams to the test with courses that incorporated diverse challenges from all three environments.

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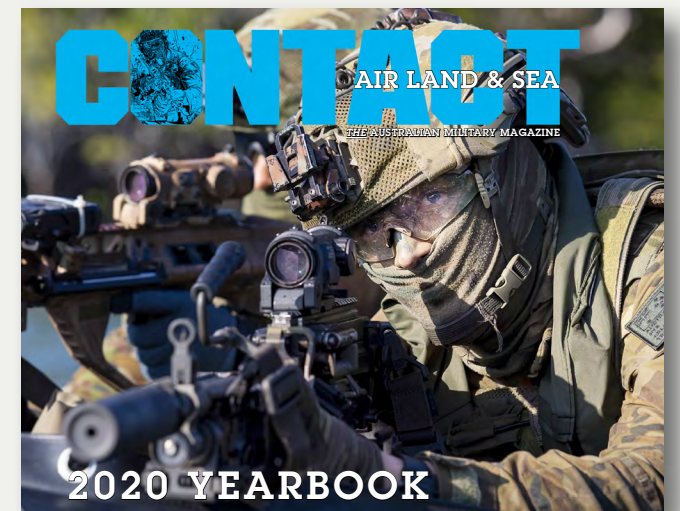
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The Gunner

LIEUTENANT CECIL WILLIAM BAXTER MC DCM

As the bullets raised the dirt around him the soldier stuck to the task at hand, for if communications were not restored the lives of so many others would most definitely be lost

Cecil Baxter was born in the coastal New South Wales town of Milton. After finishing secondary school, he went on to start training as an engineer¹. He was also well grounded in the military militia training system, serving as a part-time soldier in the Australian Rifle Regiment and later the Scottish Rifles. When his parents decided to move to the Tweed River area of northern New South Wales, Cecil set his sights on joining the Permanent Australian Army, as an artilleryman².

Stationed in and around Sydney, Cecil was billeted at Victoria Barracks, Paddington. He settled well into military life and relished the challenges of gunnery and the intricate workings of modern artillery. But in his off-duty time, it was a different matter as he spent time with a local lass, Miss T Burke from the nearby suburb of Darlington².

With the onset of the First World War, Cecil Baxter and a number of other members of the permanent forces volunteered for overseas service with the Australian Imperial Force (AIF). The higher command realised that an influx of professional soldiers intermixed with those from the Citizen Forces/Militia and even senior cadets³, would provide a great mentor base for the thousands of volunteers swarming the recruiting depots, eager to enlist. Cecil was sworn in on 30 August 1914 and immediately allocated to the field artillery, with regimental number 5².

Initially posted to the staff of the 1st Field Artillery Brigade², Cecil and the other ex-regular cadre, started to organise both officers and men of this new formation into batteries and support elements.

Everything from weapons to uniforms, boots to tents were in high demand, with every commander arguing that his unit should take priority for issuing over that of another. But, with the Government Clothing Factories working to full capacity to turn out uniforms, the respective commanders would have to make do with what was available. Recruits turned out in a mix-match of militia, permanent army and cadet uniforms and even civilian attire for training. With the priority for rifles going to the infantry, the other corps drilled with broomsticks under the shrill cadence and watchful eye of the experienced instructors. Even available field guns were shared among the batteries and were often pooled for scheduled group training.

Whether officer, NCO or soldier, they soon settled down into a structured, yet demanding routine of inspections. Drill, training and lectures were designed to transform the recruits from civilian to a close-knit and effective team, alongside the others with varying levels of military training under their belts.

In mid-October 1914, the Sydney-based elements of the 1st Field Artillery Brigade were ordered to break camp and make ready for embarkation. With flags waving, bands playing and crowds cheering, the gunners with their leather shining were a sight to behold, as they made their way to the docks and the awaiting transport ships. On 18 October, the transport 'Argyllshire'⁴ slipped its lines and was slowly pushed out into the channel. As Cecil looked down at the dock, he could see his girlfriend looking back with tear drenched red yet

loving eyes, as the pair had only recently become engaged⁵. Hope within them both that this was not to be the last time that they would see each other's face.

With arrival in Egypt the AIF settled down to hone their skills, for they needed to be ready for the inevitable deployment to where they were needed most. Cec Baxter received a welcome Christmas present on Christmas Eve when he was promoted to the rank of bombardier².

25 April 1915 and the blacked-out transports slowly shut down their engines and drifted to a stop. Laying in the distance was a series of high cliffs barely identifiable in the moonless night. Gallipoli, a name basically unknown a few weeks previously, was about to be carved forever in the annals of history.

The gunners of the 1st Field Artillery Brigade were required to remain below decks until dawn had broken but a number of officers and headquarters staff were permitted on deck to orient themselves as the landing and subsequent skirmishes ashore evolved.

With adequate gun positions in short supply among the steep, rocky crevices of the ANZAC beachhead, it took days or even weeks for all the ANZAC guns to be brought ashore. In the meantime, a balance of brigade headquarters members and battery staff came ashore to scout the area and secure positions suitable for the guns to deploy.

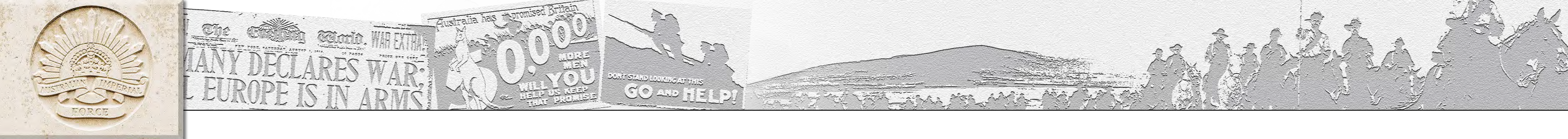
With Cecil's experience coming to the forefront, he would have been key in accompanying the

brigade staff on their reconnaissance, assisting in recording positions, elevations and potential crest hazards⁶ on the maps. More importantly, simply keeping the snipers at bay while the officers undertook their duties was of prime importance.

Over the next eight months, the Australian and New Zealand gunners played a dangerous game of cat and mouse with their Turkish artillery adversaries. It tended at times to be a rather one-sided affair, as the Turks had that much more area to manoeuvre their guns, while in the shallow crowded ANZAC Sector, suitable real estate for artillery was always a challenge to secure. The most daunting factor for the artillerymen, was that the majority of the equipment were low-trajectory guns, rather than the higher trajectory howitzers, that could engage targets positioned closer behind the hills.

Cecil's courage, determination and coolness, especially under fire, were coming to the attention of his commanders, especially in the earlier periods of the Gallipoli campaign⁷. They knew he was a tough and dependable soldier, especially when needed most, and could turn his hand to anything whether signals, command post, guns or junior command.

His knowledge of the local areas would prove invaluable to him in the future and this came to the forefront on 12/13 July⁷. A number of Australian guns would be involved in engaging targets, including enemy batteries, and especially targets supporting the Turkish front-line trenches and those operating deeper into enemy territory.



Reliable communications would be key to success and the vital telephone lines between the forward observation officer (FOO), the command posts and the gun positions needed to be maintained, as they were susceptible to incoming enemy fire. If there was someone who knew the ground and had the guts to keep the telephone lines open, then it would be Bombardier Cec Baxter.

With the battle in full swing, Cec had his repair party concentrate on the repairs in the safer defilade⁸ positions, while he concentrated on the forward and more exposed areas. With shell, rifle and machine-gun fire peppering the area around him, Cec stuck to the task at hand, for he knew that disruption to the gun fire could prove disastrous. For his actions that day, Cecil Baxter was awarded with the Distinguished Conduct Medal⁸.

With the onset of the summer months, health risks from decaying bodies, flies, fleas, lice and disease were on the rise. With the bland diet, long hours and stress, Cec was not immune to the risks posed by the conditions and, in September, he went down with enteric fever⁹.

Reluctantly, he was evacuated from Gallipoli and later transferred to the hospital ship HS Nevara, bound for Malta. There, the medical staff determined that his illness required a more temperate climate and specialist treatment and he was transferred to hospital in England².

In the New Year, Cec Baxter read of the withdrawals from Gallipoli. He somehow knew that the AIF would be redeployed to France or Belgium, as the war in the European Theatre was at a veritable stalemate and had been since the war began.

In early 1916, Cec returned to Egypt where the various Australian camps around Cairo were abuzz with excitement. The camps were awash with recently arrived replacements from Australia, intermixed with the return of previously wounded soldiers and other Gallipoli veterans from the recent withdrawal. Rumours were rife, but the most creditable dealt with the expansion of the AIF through the establishment of two new divisions, the 4th and 5th and a number of new and varied units. For the artillery, a rapid plan for expansion with more and better guns was definitely on the cards.

Cecil's return to the fold was duly welcomed as the brigades and batteries needed all the 'old hands' they could get, especially if they were going to take on the might of the German Army. On marching back into the 1st Field Artillery Brigade in mid-February 1916, Cec Baxter was immediately promoted to corporal² and set about readying himself, the veteran gunner's and the new recruits for the war in Europe.

The battlefields of northern France were a stark contrast to that of Gallipoli. For those in the front-line trenches, 'no-man's land' was a veritable moonscape of craters, mud, rotting corpses – both human and animal – rusting barbed wire and

shattered equipment. For the guns further back, it was again a game of 'cat and mouse' with the German batteries opposite. While support of the front-line infantryman was first and foremost for the allied gunners, dominance of the battlefield, destruction of the enemy logistical infrastructure and neutralising the enemy artillery, were also of paramount importance. The problem was, the German gunners had exactly the same idea, and counter-battery fire¹⁰, intent on destroying each other's fire-support capability was a constant threat.

With mounting casualties, especially among the gunner officers, the best and brightest from the ranks were chosen for commissioning. Cec Baxter's name was one of those on the list to become a second lieutenant, but his commissioning came at a price – a posting to the 3rd Field Artillery Brigade – effective immediately.

Serving now with the 103rd Howitzer Battery, Cec had the deadly 4.5 inch howitzers to 'play with', rather than the 18 pounder field gun that was the backbone of the Australian field artillery. The enemy gunners now had to choose their positions carefully as, unlike the field gun, the howitzer had a greater arc of trajectory which allowed it to fire up and over hills and ridge lines, thus being able to engage targets sheltering on reverse slopes¹¹. It was a deadly game of chance, but one that had to be played and won if the allied artillery was to gain and retain dominance of the battlefield and help bring an end to the insanity of this war.

In freezing dugouts with the haunting squeak of fat scurrying rats and the unmistakable smell of putrid stinking mud, Cecil celebrated a new year with a mug of stout rum and his promotion to lieutenant and, but more so, thoughts of home and the girl and life that awaited him – if he survived.

The ANZAC forces moved from France to Belgium with the allied front centred in front of the strategic town of Ypres. Little could they believe that conditions could get any worse, but simply, they did. Freezing temperatures, a quagmire of deep, soup-like mud, that would devour an unsuspecting or careless soldier, pelting rain from above and seeping water from below, as the relentless bombardments from both sides destroyed the centuries-old Flemish irrigation systems. This, coupled with the shallow natural water table, created a hellhole of despair for both sides. A critical factor was that the allied artillery, given its size and weight, would have extreme difficulty in moving and redeploying quickly to support the infantry. Thus, they mostly had to dig in, fortify and endure the brunt of incoming fire.

April 1917 saw Cecil appointed to the brigade signal sub unit, as the officer commanding². This was a specialist group of signallers dedicated to developing an improved form of communications, especially during attacks and counter-battery missions. The team refined all the normal drills such as flares and even runners but were intent

Photo of Lieutenant Cecil Baxter MC DCM published in the Sydney Mail newspaper, Wednesday 19 December 1917, page 26.



on the quick and effective means of locating, repairing and replacing damaged telephone lines, thus ensuring as best possible the vital passage of information.

June 1917, Cec was tireless in his preparations for the upcoming attack against the strategic area around Messines. This was to be the first significant action in Belgium by Australian infantry, including the newly arrived 3rd Australian Division, that had recently completed its training in England and was now ready to be unleashed on the enemy. But somehow, this 'stunt'¹² seemed to be different, as the usual briefings and expectations from 'the brass'¹³ were not readily forthcoming.

Cec continued to push his men hard in the lead up, but if anything, he pushed himself even harder. He was determined in his intent that every signaller in the brigade, knew the plan and, irrespective of rank, had the knowledge and understanding to take over and maintain communications in the event of casualties. Cec toured both the forward areas and the batteries, explaining in detail to the forward observation officers and command posts alike, of the communications plan. He basically left nothing to chance.

While a massive amount of allied artillery and ammunition was being amassed for the attack, tunnellers and engineers were equally busy underground. For the past two years, the allies were tunnelling towards the heavily fortified Messines Ridge, which was in German hands. The Germans were counter-tunnelling¹⁴ towards the allied front line, which had barely moved since 1915. For the allies, their work was 19 separate tunnels that, once complete, were each to be packed with thousands of kilograms of explosives, directly beneath the German frontline trenches. The date set for the attack was 7 June 1917 with an intense and continuous artillery barrage consisting of thousands of guns of varying calibres, commencing on 31 May.

In the early hours of Thursday 7 June, the allied artillery fire began to ease up with just the odd round exploding. Then it was if the world itself exploded as all 19 of the massive mines exploded over the space of a mere 20 seconds from Wytschaete on the left to Messines on the right¹⁵. The blast was indescribable in size, noise and sheer carnage¹⁶.

Two thousand guns then opened up, to soften up any surviving enemy troops and also to provide the advancing infantry with a creeping barrage¹⁷ to move forward under the safety of the guns.

When the infantry reached the blast area that was once the German frontline, they were astounded with what they saw. Bodies and body parts littered the entire area and dazed enemy soldiers stumbled, crawled or just sat crying, or with vacant stares, not understanding what had happened. The German gunners however rallied and commenced their own counter-battery bombardment and engagement of the advancing allied troops.



Despite being in a torrent of enemy fire, Cecil Baxter was still extremely active and did wonders in maintaining communications. He also pushed through an enemy barrage, to follow up a group of forward observers and assist in maintaining communications with them, as far as possible in support of the infantry. His tremendous service spanned all elements of the battle and earned him the award of the Military Cross^{1,7}.

Cecil was chosen to have his award presented at Buckingham Palace by the King himself but that would need to wait. On 13 August 1917, the 3rd Field Artillery Brigade headquarters were now deployed near the coastal town Nieuport. Cecil and his team were again active in maintaining the vital communications. As they took a well-earned break, Cec ensured that his men had time for a hot meal and a brew of tea, before he settled down to enjoy his lunch. Suddenly the distinct whistle of an incoming enemy projectile, sent the exposed members of the headquarters scurrying for cover. The heaviness of the blast indicated that it came from a large-calibre gun. Then another tell-tale whistle came screaming in, then another and another and, over the next few

hours, a total of 140 enemy rounds¹⁸ had impacted around the headquarters position. All the men could do was to hug the bottom of their shell scrapes and pray. As the fire eventually lifted, the troops were able to dust themselves off and take stock of the situation and treat casualties. The only one not to emerge was Cecil Baxter, as his scrape had taken a direct hit and killed him outright.

It took considerable time for his personal effects to make it home but he had made special arrangements for certain items to be dispersed, with his beloved officer's sword and scabbard going to his parents². His diary however went elsewhere, as it must have contained his most personal thoughts and feelings – to the young girl who had farewelled him at the dock.

UBIQUE, is the motto emblazoned on the hat badge of the Royal Australian Artillery and its translation – Everywhere. In this our 150th year, it encapsulates the service not only of Lieutenant Cecil Baxter MC, DCM, but all those who have and continue to wear the coveted white lanyard with me, the author of this story, being one of the proudest!

Notes:

- 1 AWM145 Roll of Honour cards, 1914-1918 War, Army. Cecil William Baxter
- 2 National Archives of Australia: B2445, WW1 Service Records, Cecil William Baxter
- 3 Compulsory training was allocated to both the militia and a senior and junior cadet program for the younger members. The basic age groupings were 12-14 Junior Cadets, 14-18 Senior Cadets and 18-26 – Citizen Forces/Militia
- 4 His Majesty's Australian Transport (HMAT) 'Argyllshire' (A8)
- 5 The Queenslander, Personal Notes, Saturday 8 September 1917, Page 38. Author believes this to be Miss T. Burke from the Sydney suburb of Darlington.
- 6 Any feature that inhibits the guns engaging targets. Local crests (ridges, tree lines, hills etc) that can be seen from the gun position are deemed local crests, while crests along the line of fire, but cannot be seen from the gun are deemed intermediate crests. Rounds striking

and detonating against crests can be a danger to friendly troops.

- 7 AWM 28, Recommendation Files for Honours and Awards, AIF, 1914-1918 War. Cecil William Baxter
- 8 More secure position that is far less susceptible to enemy fire.
- 9 Also known as typhoid fever
- 10 Counter-battery fire is a tactic that, as one or more artillery fire units would engage a target, dedicated opposing fire units would engage the engaging batteries with artillery fire.
- 11 Reverse slope is the back of a hill, ridge or other geographic feature on the landscape. A target on the reverse slope is normally sheltered by the forward edge of the hill or the hill itself.
- 12 'Stunt' was a slang name amongst the troops for an attack, feint, raid etc.
- 13 'The Brass' referred to the higher command whose normal headdress was a peak cap, embellished with a gold laurel wreath across the brim.

14 Counter-tunnelling was a dangerous subterranean game played by both sides. It consisted of listening, plotting, probing, scraping and digging, in the hope of breaking through into the others chambers to kill, trap or capture the opposition. Much of the fighting was conducted in minimal light or even in complete darkness.

15 Approximately 3.5kms

16 These blasts were reputed to be the largest non-nuclear explosions in history, heard as far away as London, more than 200kms away.

17 A 'creeping barrage' is an artillery tactic where the impacting rounds strike a close yet safe distance forward from the advancing infantry. That fire is adjusted to stay in front of the infantry as they continue to advance.

18 AWM 4 13/31/36 Aug 17 – Unit War Diary – 3rd Australian Field Artillery Brigade

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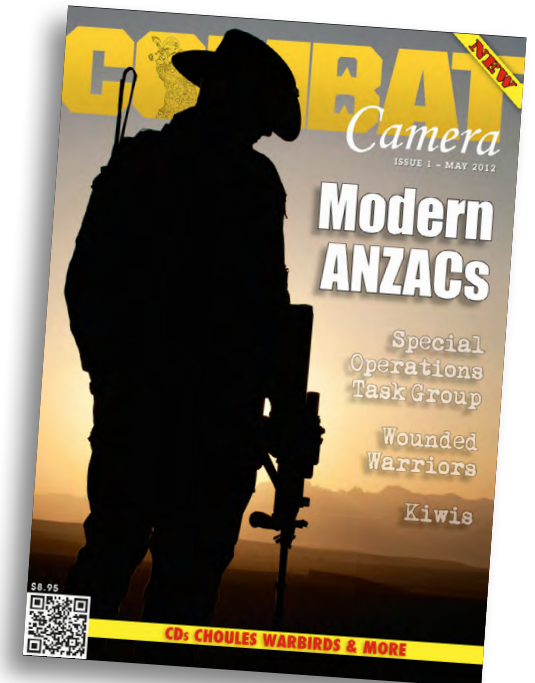
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This note was prompted by an advertisement we saw recently, announcing that Defence Technology Review was going paid subscription too – but that's an 'industry' mag.

So here we stand – alone – relying on your continued support as Australia's last remaining FREE people-focused military mag. Just saying.

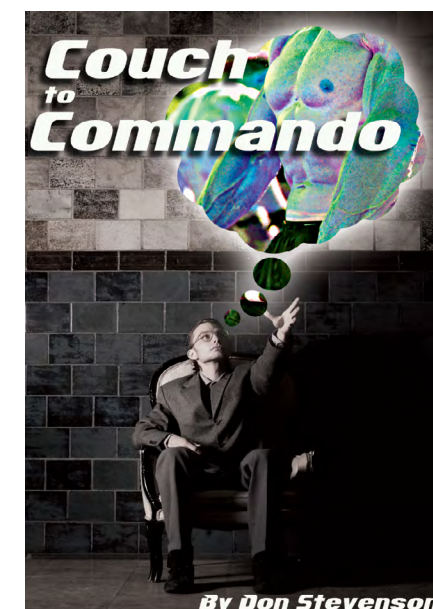
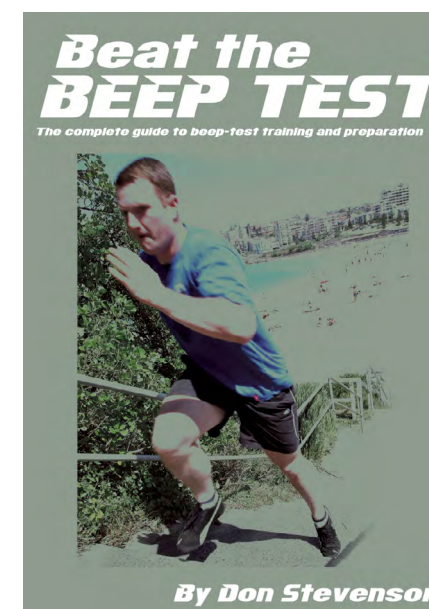
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BOMBS AWAY!



British paratroopers recently demonstrated the firepower they could bring to bear during combat missions as the British Army's global response force. As the culmination of a course in support-weapons' skills, paratroopers staged the demonstration on Salisbury Plain.

A fast-moving scenario saw an advancing force of enemy armoured vehicles engaged and defeated with Javelin and NLAW anti-tank missiles, 81mm mortars (pictured), grenade machine guns, heavy machine guns and general purpose machine guns.

Paratroopers opened fire from ground positions and while moving in RWMIK patrol vehicles.

The five-week-long Support Weapons Cadres course trained soldiers from Colchester-based 2nd and 3rd Battalions, The Parachute Regiment, to serve in their unit's specialist machine gun, mortar and anti-tank platoons.

Soldiers were taught the practical skills to fire and maintain weapons in the field, and how to use firepower in different tactical scenarios.

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