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ISSUE 3 $8.95

CONTACT

AIR, LAND & SEA

THE AUSTRALIAN MILITARY MAGAZINE

LONE WOLF
RAAF'S FORWARD AIR CONTROL

AMPHIBIOUS TROOP BASE
RAN'S NEW OFF-SHORE SUPPORT

MINES FREEZE!
CLEARING THE WORLDS MINEFIELDS

OUTBACK DESERT RAT
FROM THE TIGRIS TO THE TODD

HEAVY LOAD
3RAR GET THEIR KIT OFF!

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ISSUE3

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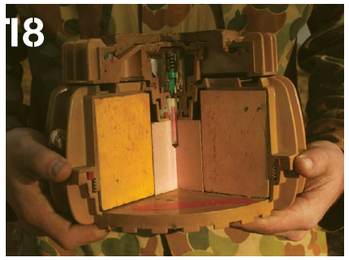

THE EDITOR'S LETTER

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AIR, LAND & SEA

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It's hard to believe we are up to issue number three already. Time really does fly when you're having fun. And it flies 10 times faster with a deadline looming.

But that's for me to worry about. Your job is to sit back, relax and enjoy what the team has drawn together for you in this issue.

Just a quick scan of my page plan tells me we have another diverse collection of stories on offer this issue. There's sure to be something of interest for everyone.

I'll actually start in the middle, if I may, and point out the three-page poster that I hope will adorn many workstations – or at least dunny doors – over the coming months.

Looking at that digger in the poster and the load he has to carry just reminds me how old I really feel and that my days of stomping in the weeds are long gone. I'm sure he loves it, though. And I certainly raise my hat to him and his comrades in 3RAR.

On the reverse of the poster, if you pull it out, you'll find a very handy 2005 year planner featuring a breathtaking picture from East Timor. We chose this reflective shot (by Sgt W. Guthrie) to aptly mark the fifth anniversary of Australia's successful military intervention in that country.

Closer to the front of the mag, you'll find a yarn by Sean Burton about the scourge of landmines – those insipid weapons that still kill and maim innocent men, women and, worst of all, kids, years after so-called responsible warfighters have kissed and made up.

Then there's the one about the desert rat... During his visit to Alice Springs for Anzac Day, Sean Burton uncovered the story of a former tankie who fought in the "Mother of all Wars" and now keeps the peace in the red centre.

On the far side of the poster we take an in-depth look at the lone-wolf job of the RAAF – Forward Air Controller. These are pilots who fly around the battlefield, usually alone, looking for trouble and then giving the bad guys a blood nose – in a big way. Like the raven on their aircraft's tail, they're real bad news if you're on the wrong side.

Respected military reporter Ian Bostock joins us this issue to take a look at a couple of new ships proposed for the Navy. These, when they arrive, will be bigger and more capable that just about anything Australia has ever floated before and will certainly boost our reach in the region.

Speaking of reach, Bomber Command did so much for the cause during the last big stoush, not only in the sense of the miles clocked up over the heart of the Reich territory, but in the oft-times under-rated affect they had in scaling back the German war machine. Starting on page 49, Lancaster navigator Reg Boys from Sydney gives us a glimpse of the human heart of the big planes and reveals how he survived against huge odds.

We wrap up, as usual, with Wayne Cooper's finger-licking-good tour of Somalia, followed by Darryl Kelly's Just Soldiers – and the Nobber.

Enjoy.

Brian Hartigan, Editor

Got something to say? Then write to us at CONTACT Air ,Land & Sea, PO Box 897, Dickson, ACT 2602, AUSTRALIA or email: editor@militarycontact.com

FEEDBACK

REFLECTING ON MODERN TIMES

Thanks for creating a magazine that is both informative and reflects the lives of the modern soldier. There seems to be the never-ending stories of diggers from old wars and nothing about the past 20 years of current and ex-serving members. Could you please get more stories like the one from Somalia – starting with Namibia and progressing from there?

Could we also have bravery stories or stories that reflect great deeds done by ordinary ranks, not the obligatory tripe of high-ranking officers patting each other on the back for a job well done, when we all know it's the digger whose arse is on the line. Just look at the Australia Day awards – Major Bloggs, Order of Australia, for running the officers' mess committee to a high standard, and so on. Yet the digger who is first in for the snatch and grab in the pitch black gets nothing. The ones who are suffering from PTSD after operations get bugger all.

Paul G, Hillcrest, Queensland

WHERE CAN I GET IT

In response to a query from an American friend, I have discovered that you are the producer of a new magazine named CONTACT (which is also the name of the RAAF Association's Victorian newsletter).

I would like to acquire a copy of each of the first two editions. Can you please advise me where in Melbourne this can be obtained, should I require further editions.

Barry V, Bentleigh East, Victoria

Thanks for your enquiry Barry. The reference to your American friend is intriguing. I guess he found us on the Web.

We were aware of several other Contact magazines, but feel our full name – CONTACT Air Land and Sea – more adequately sets us apart and reflects the full scope of our coverage.

You should find CONTACT in most good newsagencies in Melbourne – and, indeed, all over Australia – but feedback suggests some shops – especially in Melbourne and Sydney CBDs – sell out quite quickly. So, to ensure you get a copy, either get in early or, may I suggest, take out a subscription. I'm confident you won't regret it – Ed.

COMMANDO ANNIVERSARY

Next year brings the 50th anniversary of the raising of post WWII commandos.

The 1st Commando Regiment is coordinating a number of projects to celebrate this important anniversary.

One of the major projects is the publication of a commemorative history book *Strike Swiftly; Australian Commandos 1955-2005* to be launched in August 2005.

Included will be a nominal roll of all members who have served with the regiment over the past 50 years. This will be the most comprehensive list ever produced and, of course, we don't want to miss anyone out.

Please visit our website to enter your regimental particulars and get your details in the book – www.1commando50.com.au

If you have contact with people who have served in the regiment previously please forward this information to them. If you are currently serving in the regiment, we have your details.

There is also a survey to determine the interest in purchasing the books.

We will produce two versions – limited edition leather bound at approximately $250 and hardcover at about $50-$60.

The limited edition books will be pre-sold only. Purchasers will have their names published in the book as financial sponsors.

Submissions for Nominal Roll close 30 September 2004.

If you have any questions, please contact

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WESTERNISED CADETS

I would like to congratulate you for your excellent magazine. CONTACT is full of useful information concerning the Australian military.

I would like to know that if it is within your power that you may be able to conduct a report on the AAC (Australian Army Cadets).

The unit that I currently reside in is 502ACU, Karakatta, stationed at Irwin Barracks, Perth, WA, and it would greatly please me if you could conduct your report on our unit. I understand that your main office is in the ACT and the difficulties that involve you getting to Perth.

Callan H, Perth, Western Australia

Callan, thanks to your letter. The editorial team has already decided to have a good look at the Army Cadet Corps in the near future. I can't promise we will make it to Perth, but I'm sure one of your sister units on the east coast can adequately represent the Corps. In the mean time, can I ask that you or your OC keep us informed whenever your unit is planning interesting activities.

PRAISE THE VET'S ADVOCATE

Just a note of congratulations on this excellent magazine. I was impressed with Sean Burton and Jason Weeding's piece on Anzacs In Alice. This is a different angle to the capital city parades usually depicted in the mainstream media, bringing the focus back on the diggers themselves.

Equally, I was impressed with the piece on Graham Edwards. He does fight hard on behalf of servicemen and women in Canberra and lobbied strongly for the recently announced Australian Defence Medal, the campaign medals for Iraq and Afghanistan, and the wearing of bravery medals by members of D Coy involved at Long Tan.

It was pleasing to see CONTACT pay tribute to this outstanding veteran's advocate – and I'm not even a Labour voter.

Keep up the great work.

Phil P, Hobart, Tasmania

THUMBS UP FOR NUMBER TWOS

I'd just like to congratulate you on the magazine. I picked up a copy of issue #2 the other day and found every article extremely interesting. I'm sure the magazine will be popular and I look forward to reading future issues.

Andrew B, by e-mail

STAR LETTER

THE STAR LETTER WINNER FOR THIS ISSUE RECIEVES AN H3 6500 NAVIGATORS WATCH FROM TRACER WATCHES, VALUED AT $395.
WELL DONE TO CADET JACOB MARSHALL, 33ACU, VICTORIA.

TIME WAITS FOR NO MAN

I really enjoyed your first two issues, congratulations. I got a $10 voucher for the local newsagency for my birthday this year, and that's how I bought the first issue.

I have been in Army Cadets for 10 months in Benalla. I joined at the youngest age I could. I also want to be an officer in the infantry when I finish school.

I really enjoy these kind of magazines with military news and, finally, an Australian one better than all that US stuff coming in.

Also, in issue two you advertised VBS1 – another Australian design.

I would like to see a story on the Aussie SASR (if you can get any info). I also love the Somalia series of stories.

Thanks again for this excellent magazine. I hope it sticks around for a long time.

I look forward to the next issue.

Jacob M, 33ACU, Benalla,Victoria

Jacob, I have great pleasure in announcing that, thanks to Tracer Watches, this excellent watch is on its way to you. Each issue we hope to bring you something special for the star letter of the issue – so get writing.

HARD YAKKA FOR SPECIAL FORCES ENTRY

The first group of Special Forces Direct Recruiting Scheme (SFDRS) entrants has completed initial training, culminating in the SF entry test.

Of an initial 800 applicants, 48 were selected for training – 21 passing the final barrier.

But, it's still a long way to the top for the successful participants as their training continues.

Launched in October last year, the SFDRS is a groundbreaking scheme designed to boost the Australian Defence Force's special-forces capability by allowing intelligent, fit and motivated young men to apply for direct entry to Special Operations Command.

WHERE'S YOUR DOCS?

Currently being trialed by the US Army, the Personal Information Carrier is no bigger than an ID tag and may ultimately become the storage medium for a service member's complete medical history and personal records. If the device were introduced by the ADF it could mean an end to carrying around those big yellow envelopes stuffed with half a rain forest.

2CAV STEP UP

The Australian Government has decided to boost the ADF's force protection elements guarding Australian military trainers, diplomats and contractors in Iraq.

A further six Australian Light Armored Vehicles (ASLAV) and approximately 30 more Army personnel have deployed to Operation Catalyst, increasing the security detachment (SECDET) to 12 ASLAVs and 120 personnel.

In addition to protecting diplomats and Defence personnel in Baghdad, SECDET is increasingly required to travel further to support ADF personnel serving with the Iraqi Army Training Team as they travel to new locations around the country.

The beefed up SECDET will take the ADFs commitment to Operation Catalyst to about 880 and also reduce reliance on US military forces who have, until recently, provided security for the training team plus medical evacuations.

The ASLAVs deployed from Darwin aboard a USAF C5 Galaxy aircraft with personnel drawn from 2 Cav Regt and 5/7RAR.

NEW IRAQI NAVY

The Umm Qasr Naval Base in Iraq was officially commissioned recently and its facilities transferred to the Iraqi Coastal Defence Force.

The hand-over ceremony also marked the culmination of months of work by the international coalition to re-equip the ICDF with five patrol boats and refurbish its naval facilities.

Defence Minister Robert Hill, along with Chief of Navy Vice Admiral Chris Ritchie and Commander Australian forces in the Middle East Brigadier Peter Hutchinson attended the ceremony.

Senator Hill said the ICDF now has the equipment and personnel to commence patrolling its territorial waters and offshore oil terminals in the near future.

"A team of Royal Australian Navy sailors played a pivotal role in helping the coalition train the Iraqi sailors," he said.

"While great progress has been made, the work is not yet complete and our sailors will continue their important role for the time being.

"The coalition is also looking at options to possibly salvage and refurbish at least one other patrol boat."

Five patrol boats were purchased by the former regime several years ago and shipped for delivery but were intercepted before arrival and stored in a third country.

At the beginning of this year, the Coalition funded the refurbishment of the boats, with the first being sea trialled and then sailed to Iraq in April.

All five boats are now located at Umm Qasr Naval Base in southern Iraq and are being used to train the Iraqi sailors who will eventually operate them.

X FACTOR HITS TARGET

Soldiers more than happy with new performance of new assault weapon

The proposed future Lightweight Assault Rifle the XM8 is getting good reviews from US soldiers as they test the weapon, which if successful, will replace the existing M4s and 40-year-old M16s.

While the XM8 still faces four more formal tests before the decision is made whether to buy it, Special Forces soldiers and other troops, who have tested it, say they want it issued immediately.

The Heckler and Koch designed XM8 will be cheaper, smaller and weigh 20 per cent less than the current M4 carbine rifle.

Its additional features are said to make it the most effective assault rifle in the world.

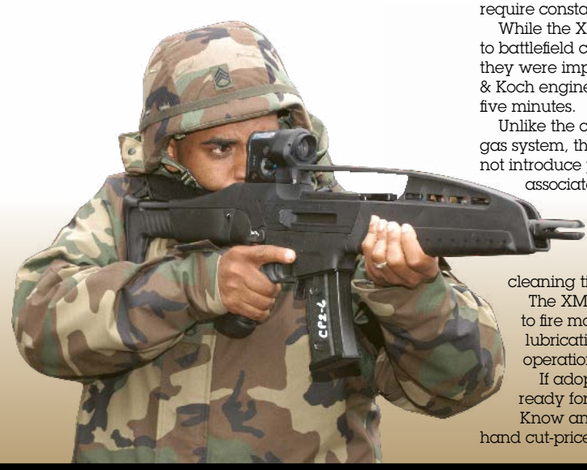
As a modular weapon with interchangeable barrels it has been designed to suit all the needs of the 21st Centaury war-fighter, including a 'sharpshooter' version with increased range, an ultra compact, a carbine version and an auto-rifle version to act as a section automatic weapon.

This modular system includes interchangeable assembly groups such as barrel, hand-guard, lower receiver, butt-stock and sighting system with removable carrying handle.

The new XM320, quick detachable, single-shot 40mm grenade launcher with side-opening breech and lightweight 12 gauge shotgun module can be easily added to the weapon by a user in the field without tools.

Internally, the XM8 employs a combat-proven robust rotary locking bolt system that functions and fieldstrips like that used in the current M16 rifle and M4 carbine.

Major components of the weapon are produced from high-strength fibre-reinforced polymer materials that can be moulded in almost any colour to include olive drab, desert tan, arctic white, urban blue, brown and basic black.



The 5.56mm weapon uses 10- or 30-round semi-transparent box magazines and high-reliability 100-round drum magazines for sustained-fire applications.

The battery-powered sight includes the latest technology in a red-dot close-combat optic, IR laser aimer and laser illuminator with back-up etched reticle. This sight will be factory zeroed on the weapon and will not require constant re-zeroing.

While the XM8 has not yet been exposed to battlefield conditions, weapons experts say they were impressed after watching Heckler & Koch engineers fire 400 rounds in less than five minutes.

Unlike the current M4 and M16 direct-gas system, the XM8 gas system does not introduce propellant gases – and the associated carbon fouling – into the weapon's receiver. This greatly increases reliability while at same time reducing weapon cleaning time by as much as 70 per cent.

The XM8 gas system allows the weapon to fire more than 15,000 rounds without lubrication or cleaning in even the worst operational environments.

If adopted, the weapon could be ready for the field by mid 2005.

Know anyone looking for some second-hand cut-price M4s?

ARE YOU TAKING THE PISS?

Defence food boffins in the US have created freeze-dried rations that a soldier can rehydrate by using dirty water – or even his own urine.

The rations are surrounded by a membrane made of a nanofibre that can filter out 99.9 percent of microbes and the most harmful toxic compounds, allowing only clean water to rehydrate the preserved food.

To date, one menu has been tested but the selection will be expanded if the concept proves popular.

The aim of this gastronomic extravaganza is to reduce the amount of water a soldiers needs to carry.

The dehydrated pouches will weigh 400gms each.

The US Army's Combat Feeding Directorate, inventor of the technology, is the same organisation that invented the indestructible sandwich.

The combat sanger can survive extreme climates and just about anything else as the new "pocket" sandwich is designed to stay fresh for up to three years at 26°C or for six months at 38°C (just over body temperature).

The sandwiches are sealed, without pasteurisation, in laminated plastic pouches, which also include sachets of oxygen-sucking chemicals that stop the growth of mould and bacteria.

Soldiers who tested the peperoni and barbecue-chicken pocket sandwiches found them acceptable.

There are now plans to extend the menu to pocket pizzas, as well as cream-cheese-filled bagels, breakfast burritos and peanutbutter sandwiches.

As for the urine-rehydrated meals, experts say that rehydrating the food with urine should only be considered in a survival situation because of the potential for kidney damage if used over long periods.

Not that anyone would want to break that rule!

MEAT HEAD

Following the popularity of the BBC series* Red Cap, *depicting the hard working, intelligent, brave, heroic, compassionate Military Police of the British Army, AJTV is pleased to announce* Meat Head, *a new drama series about the Australian Army Military Police.

EPISODE 1: A LONG WAY TO THE TOP
In the opening episode we follow Private Jim Loser who thinks a transfer to the MPs is an easy two stripes. See him become bitter and twisted when he realises that all he's achieved is to go from the bottom of one pile to the bottom of another.

EPISODE 2: SERVING THE NATION
The vital work of the Military Police is examined. Using the latest high tech radar (that civilian coppers stopped using because it was so unreliable) and on the lookout for speed demons who recklessly tear up the base at 41km/h.

EPISODE 3: LOST WITHOUT YOU
Meat Heads have the vital task of directing exercise convoys. They put out a 6-inch by 6-inch sign with a black arrow on dark green, a foot off the ground and wonder why drivers in a forest at midnight on black-outs can't see it.

EPISODE 4: FRIENDS
(As Australian Army MPs don't actually have any, this script is under development.)

EPISODE 5: THE PERSUADERS
When an SLR goes missing, the crack Meat Head SIB team soon suspect the soldier who had the rifle on the previous exercise. After a few days downtown he "willingly" signs a confession. Case closed. The rifle is found a year later in the bottom of the armory's chemical cleaning tank.

EPISODE 6: BOB MARLEY
It's a 4am drug bust at the OR's barracks. A further mystery emerges in the female lines where two soldiers share a room but only one bed needs making.

Meat Head – coming soon to AJTV

THE TWO MINUTE BRIEF.... SUDAN

30,000 indiginous Africans have been murdered by Arab militias with 1.2 million made homeless and facing starvation in the Dafur Region.

Where's Sudan?
Sudan is in the north-eastern part of Africa. It's got a lot of desert and not much of anything else.

Why are the Africans killing each other again? Whose fighting this time?
Arab traders first came to Africa in the 7th Centaury. They sold the locals as slaves and established strong trade and military influences.
They have always looked down on the indiginous population.

What's the Sudanese government doing?
Hmm. Bit of a problem there – the government is made up of Sudanese Arabs who have backed the Arab militia – called the Janjaweed – to fight black anti-government rebels called Dafuri. The Janjaweed are using the Dafuri as an excuse to carry out a campaign of genocide.

Why are the Janjaweed doing that?
Some say they want to 'Arabise' Sudan and nearby countries and restore traditional Muslim law.

Did you mention links to Al Queda?
No, stop being paranoid and get on with it.

So what's their method of operating?
The Janjaweed raid remote villages, on camels, carrying AK47s. They murder the men, rape the women and burn the homes.
Government troops support them with Antonov bombers and Hind helicopter gunships.

That's not good, but what's it got to do with Australia?
In the past we have supported UN operations in Africa including Somalia and Rwanda.

Haven't we been to the Sudan before?
Yes – very good. In February 1885, NSW sent an artillery battery, a battalion of infantry and an ambulance detachment to serve with British forces. Three diggers were WIA and five died of disease.

Who else is going to help?
The UN wants to step in with the help of Europe and the US. This is the UNs big opportunity to make up for Rwanda where they sat on their hands as 800,000 civilians died.

So who will we send?
General Johnny is staying flexible. It could be a company-size group (150), a platoon (31) or maybe a handful of observers.

A platoon? You mean 30 officers and a digger to do the pickets?
Er...get on with it.

When are we going?
Not for a while yet, as the Sudanese government is fighting mad about letting the UN intervene. They feel it's just an excuse to get rid of another Arab government.

In time for Xmas? It would make great TV.

Can we sing 'Feed the World' again?
You're very cynical aren't you?

EXERCISE TASMAN RESERVE

They knew they were heading for a different training environment, but nothing could have prepared the Australian reservists for New Zealand's Exercise Tasman Reserve – or for the rain. ➜

WORDS & PICS ANDREW MCALLEY

Held in the Waitaki Downs area of the South Island's west coast, Exercise Tasman Reserve saw an Australian company – made up from 10/27RSAR, 1/19RNSWR and 4/3RNSWR – join up with a composite company of New Zealand Territorial Force units.

Hosted by 2 Canterbury, Nelson, Malborough, West Coast Battalion Group, the exercise was to be held over an area described as "challenging ground" – but that was before the week-long downpour.

As the Aussies were getting familiar with the close bush and rugged hills of the west coast, a 100-strong composite Kiwi company was arriving in Australia.

"The aim of the exercise is the general exchange of knowledge between reservists in both countries while at the same time enhancing individual soldier skills as they operate with different equipment and procedures," Captain Grant Palmer, 2 Cant, said.

The main difference for the Australians was the close terrain of the rugged west coast and the requirement to change the normal load carried by the soldier operating in this environment.

"This place is 100 per cent different to our normal training area – we're used to desert training in the open, where it's dry," Sergeant Gavin McClintock, 10/27RSAR, said.

Operating procedures were altered to suit the close bush the Aussies encountered – less water was carried and warm clothes and wet weather kit became essential.

One colourful digger remarked; "Christ, before I left Wollongong I hadn't seen rain in three years – I've been here a week and seen enough to last me bloody 20!"

Flown to New Zealand by RNZAF Boeing 757, the Diggers were then transported to the west coast via the Tranz-Alpine Express, a popular train route that affords magnificent views.

Following three days of consolidation training, the Diggers departed for eight days' hard slog in the field, traversing between the Nancy and Tass River valleys.

"BEFORE I LEFT WOLLONGONG I HADN'T SEEN RAIN IN THREE YEARS – I'VE BEEN HERE A WEEK AND SEEN ENOUGH TO LAST ME #@*! TWENTY!"

"Our preparations were OK, but I don't think I'd done enough hill work to prepare for what we encountered," Private Stephen Walker of 4/3RNSWR said.

The first five days of conventional training was a doctrinal change for the Australian reservists whose main focus had been supporting the Global War on Terrorism. This had allowed them to impart knowledge gained during the Sydney Olympics to their Kiwi colleagues.

Following the field work, and in the true spirit of ANZAC, a combined sports and social weekend was held for all elements at Burnham Camp, outside Christchurch, before the Aussies left – in search of some sun.

FAREWELL TO A VIETNAM VET

The Australian Army has officially retired the UH-1H Iroquois helicopter gunship after 35 years of service that started on the battlefields of Vietnam.

Three of the eight retiring Huey Bushranger gunships flew over Brisbane for the last time in June to mark the passing of a nostalgic era in Australian military aviation history.

The UH-1H Gunship capability was developed by the RAAF in Vietnam in 1968-69 with 9 Sqn Gunship Flight formed on 23 April 1969. Current Chief of Air Force Air Marshal Angus Houston once commanded the squadron and flew one of the aircraft on their farewell flight.

The RAAF operated all battlefield helicopters before handing the capability over to the Army in 1986.

CDF General Peter Cosgrove said he, like many Vietnam veterans, thrilled to the sound of an incoming Huey.

"That unmistakable thump of a Huey coming in meant help was on the way. It was either coming to get you or, in the event that you couldn't be extracted, that you were being supported by armed helicopters," General Cosgrove said.

The mantle of the gunship capability will be taken up by Tiger ARH after delivery begins later this year.

The Huey's will not disappear off the orbat just yet, however. The former gunships will be disarmed and operated as slicks.

UH-1H GUNSHIP SPECS

Power plant	1300shp Lycoming T53-L-13 turboshaft.
Dimensions	Main-rotor diameter 14.63m (48ft); length 12.77m (41ft 1in); height 4.42m (14ft 6in)
Weight	Empty 2255kg (4937lb); loaded 4309kg (9500lb)
Performance	Max speed 110 Kts (204km/h); range at low level 275nm (511km) at max weight.

OPERATION ANODE

RAMSI-WISE SOLOMONS

Since arriving in the Solomon Islands on the 24 July 2003 as part of the Regional Assistance Mission to Solomon Islands (RAMSI), the military contingent has made a significant contribution to restoring law and order in the country by providing security to the Participating Police Force.

Military assistance in the collection of over 3700 weapons during the nation-wide gun amnesty helped achieve significant progress.

The military component of RAMSI, known as the Combined Joint Task Force 635, consisted of personnel from Fiji, Tonga, Papua New Guinea, New Zealand and Australia and included personnel from both 2RAR and 5/7RAR.

Over the past 12 months, 4000 Military personnel have directly supported Operation Helpem Fren.

Pics by Cpl Belinda Mepham

MINES FREEZE!

In the next 22 minutes, another person will step on a landmine. There's a 90 per cent chance that the victim will be an innocent civilian and, more likely, a child.

WORDS **SEAN BURTON** PICS **WADE LAUBE**

Landmines and the curiosity of a child continue to haunt Lieutenant Colonel David Barnes. While clearing landmines beyond the perimeter at Bagram Air Base, Afghanistan, he and his team of multi-national de-miners saw an Afghan kid run towards them.

"We shouted and waved, trying to warn him to turn back. He eventually stopped but then ran off, out of sight."

A few minutes later, an explosion rang out – Barnes' worst fears were confirmed when a helicopter search crew found what was left of the hapless child.

Most de-mining takes place in the poorest, war-ravaged countries where civilians continue to fall victim to the insidious weapon, long after the fighting has ceased.

Sometimes armed with nothing more than a fiberglass rod, sappers methodically and patiently prod the ground searching for landmines. When detected, they either carefully remove it or destroy it in place to make an area safe again.

In 1996, as a Royal Australian Engineer, Lieutenant Colonel David Barnes first became involved in de-mining after accepting a posting to participate in Australia's UN contribution to humanitarian de-mining in Cambodia. He says it was a fantastic professional and personal opportunity work in something that would make a real difference in saving lives.

As commander of a team of Cambodian and multi-national de-miners he was expected to lead by example in a very hands-on way.

"Working around mines is really dangerous and people naturally don't like doing it, so, as commander, I had to be prepared to do what I was asking my men to do.

"The first time I went into a live minefield, I was extremely nervous, but became very awake, very alive and very focused as the training kicked in."

Walking into a minefield goes against all human instincts. So why would anyone want to go into such a dangerous situation?

Well, it's like…it's very…it's just…" He looks out the window… then suddenly laughs aloud, unexpectedly breaking the solemn mood.

"It's a bit like going into the Collingwood Cheer Squad wearing a Carlton jumper – why would you go in there?"

Australian de-miners are world leaders in humanitarian de-mining and military counter-mine operations, Barnes says.

Australian sappers have had huge experience in Pakistan, Ethopia/Eritrea, Mozambique, Cambodia, Namibia and, more recently, Afghanistan and Iraq.

Those engineers have brought back their experiences, which has now been shared around their corps and ultimately the ADF.

"Participating in those humanitarian de-mining missions has paid off for the Australian Army especially when we went to war in Afghanistan and Iraq.

"It gave us enormous understanding and experience of the landmine threat. We now have a cadre of blokes who have been places, understand the threat, lifted mines and, more importantly, understand how they could be used against us.

"Those missions are starting to dry up as humanitarian de-mining becomes civilanised. But that experience and expertise is invaluable and will pay off for the Australian Army."

As proven when he lead a force of multi-national de-miners in Afghanistan.

The force was made up of Americans, Bosnians, Mozambiquans, Jordanians, Poles and Slovaks tasked with clearing hundreds of thousands of mines and unexploded ordnance surrounding the coalition's principle operating bases at Bagram and Kandahar airbases.

"An act of Congress has meant that, while the USA is a big financial supporter of humanitarian demining, the US Army is prevented from gaining the type of hands-on experience the Australian Army has got over the past decade.

"When the war in Afghanistan began they, to their credit, recognised what they didn't know and sought the help of Australia.

An example of the challenge US forces faced in educating their troops about the threat landmines posed occured soon after arival at the Bagram airbase where he watched an act of deadly comedy unfold.

"We had huge armored bulldozers for clearing landmines around the base quickly. They would just take the top layer off and push the dirt into a big pile and we'd fence it off with the idea of coming back later to deal with the landmines .

"When the bulldozer clears the earth it leaves behind thin strips of dirt either side of the blade.

"I was stunned as I watched an American soldier walking behind the bulldozer, kicking the strips of dirt as if looking for something. I ran up

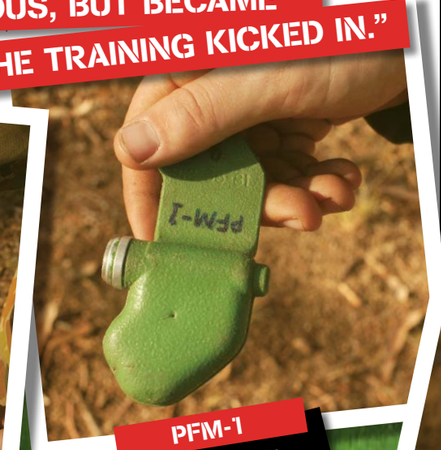
"THE FIRST TIME I WENT INTO A LIVE MINEFIELD, I WAS EXTREMELY NERVOUS, BUT BECAME VERY FOCUSED AS THE TRAINING KICKED IN."

VALMARA 69

Bounding or 'Bouncing Betty' landmine detonates at chest height

POMZ

Stake fragmentation mine scatters frag in all directions at ankle height



PFM-1

Air-deliverable, brightly coloured, butterfly mine, attaractive to curious kids

LIEUTENAND COLONEL DAVID BARNES WITH CIVILIAN DEMINERS IN AFGHANISTAN

VS50

Cheap, mass-produced, plastic and very easy to use anti-personnel landmine

TC6 A/T

Training-aid cutaway shows the workings of an anti-tank mine

PMN

No bigger than a tin of tuna and just as cheap – World's most popular landmine

LITTLE BASTARDS

Landmines are designed to explode and disable any person or vehicle by either the explosion or the fragments from it.

They are usually placed in or on the ground and are activated by pressure, tripwire, seismic or command detonation.

Of more than 700 varieties of landmines that exist, some are no bigger than a tin of tuna, cost between $3 and $30 to produce and can be active for up to 50 years.

Anti Personnel (AP) mines are the most common type of landmine. They require between 5-16 kg of pressure to activate. They are categorised into five common types;
Blast Designed to destroy a person's foot or leg and cause secondary damage, such as infection and amputation.
Bounding aka "Bouncing Betty" When activated, the landmine is shot about a metre into the air before exploding, causing injury to the upper body with blast and fragmentation (frag).
Directional Fragmentation When activated these bounding or ground-based mines release fragments of metal, plastic or glass usually in a fan pattern. They can injure up to 100 metres away.
Stake Fragmentation Deployed at ground level to blast "frag" in all directions.
Chemical Disperses a chemical agent the effectiveness of which can be determined by weather conditions.

Anti-tank (AT) mines are typically larger than AP mines, requiring between 150-300kg of pressure to detonate. They may disable rather than destroy a tank, but will destroy a truck, tractor or car as well as kill people in or around the vehicle.
Anti-tank mines are categorised into two common types;
Blast Will destroy anything smaller than a tank but only destroy the tank's mobility.
Self Forging Fragmentation A direct energy shaped warhead penetrates the tank's underbelly killing crew with splintering metal from the blast.

The Ottawa Treaty permits 'Claymore' type mines used only in a command detonated mode, however it prohibits them to be used in a victim activated mode.

BLAST PROOF

Some blast protection for a dangerous occupation

A NAVY CLEARENCE DIVER APPROACHES UNEXPLODED ORDNANCE IN A SUSPECTED MINEFIELD USING THE CLASIC CLEARANCE TECHNIQUE

to him shouting to stop. When I asked what he was doing, he said "checking for mines in the dirt".

"The American engineers had a lot to learn but they were quick and soon became confident and competent."

"I am emensly proud of the courage and dedication that all the soldiers under my command showed in carrying out a very dangerous mission."

As a military engineer, Barnes once supported the use of landmines as an effective weapon – until he witnessed the cost in lives.

"Before I went to Cambodia I was opposed to what is now the 1997 Ottawa Convention – the world-wide ban on landmines. But there I saw the reality.

"Responsible military forces lay, mark and usually recover landmines, but the reality is that most people who use landmines today don't.

"Today they are used in countries where they are laid by some poor kid who had been press-ganged in the middle of the night. He is taken away, receives a day's training in laying mines and is scared to death, so he just scatters them to get away as quickly as possible."

One of the most deadly legacies of modern warfare is the indiscriminate use of landmines. They continue to have horrific consequences on civilians, years after a conflict has ended leaving them in supposed peace.

As time passes, the location of landmines is forgotten by those who laid them and by those communities living among them.

Landmines continue to be deadly effective for decades after being deployed, and are currently causing 15-20,000 casualties a year.

"I think they are the most insidious weapon because they kill indiscriminately. They are weapons of terror," the de-miner says.

Landmines do not just kill and injure individuals but also terrorise the living by making prisoners of whole communities.

Lieutenant Colonel Barnes recalls the dilemma facing a father in Cambodia who had reported a landmine explosion close to his home. As the de-mining team tried to ascertain the facts, they learnt that the man had lost five children killed by landmines in the nearby forest.

But the father had kept sending them out to collect wood to sell as charcoal.

"My initial reaction towards the father was shock and anger. Was this man the worst father in history? He continued letting his kids get blown up by sending them out into the forest to collect wood. I was very angry and very upset.

"Our interpreter then explained the horrific situation the father faced. Either he sends his kids out to where they may die or keep them at home where they would all starve. What a situation."

But the death of a child is often preferable to it surviving a blast and becoming a living casualty.

If the casualty is one of the 50 per cent who survive long enough to make it to hospital, the most immediate problem for the charcoal seller is medical costs. His child would face the need for blood transfusions, surgery, painkillers, antibiotics, artificial limbs and rehabilitation.

The average cost for providing an artificial limb to a landmine survivor is estimated to be between $100 and $3000. But this is merely the start for child casualties who will need up to 25 prosthetic limb changes in a lifetime.

As a father himself, Barnes says that witnessing events such as this are tough, but serve to fortify his belief in the importance of his work.

Unfortunately for him, the indiscriminate killing of civilians and the lessons of Cambodia were fortified five years later in Afghanistan.

Thousands of travelers used the busy road outside Bagram airbase, but rain had softened the dirt road exposing a landmine that, until then, had remained hidden under the surface.

A Hiace van packed with locals detonated the mine. The engineers arrived at the scene to render what assistance they could.

"There were at least six dead and five seriously wounded, they were all non combatants going to the local market.

"Landmines are indiscriminate killers and I hate them for that."

So why does the sapper go where even angels fear to tread?

"I'm a combat engineer. This is what I was trained to do and this is what I do. Anyway, who would want to be an infantryman? Bloody horrible job that!" he laughs, shrugging his shoulders.

Somehow, I think making a real difference to people's lives every 22 minutes has a lot more to do with it.

THERE WERE AT LEAST SIX DEAD AND FIVE SERIOUSLY WOUNDED AND THEY WERE ALL NON-COMBATANTS GOING TO THE LOCAL MARKET

THE RESULT

A graphic illustration of the dibilitating effects of a 'toe-popper' landmine

Real homes. Real fast.

Anywhere.

TEKTUM.com.au

OUTBACK DESERT RAT

From Desert Storm to red centre, Phil Kellow – different desert, different uniform

WORDS SEAN BURTON PICS JASON WEEDING, FULLFRAME

The Akubra-hatted cop approached my window, scanned me and the vehicle and requested that I turn my engine off – and I remembered the beer I had at the airport bar five hours before.

I notice his partner in my side mirror checking out the back of my car. Their police radios chatter and chirp, breaking the silence of the outback dusk.

The cop scans me again and the vehicle interior as he begins his polite and by-the-book random-breath-test preamble.

Holding the breathalyser and looking at my reading, he begins to slowly shake his head, and glances at what must have been creeping disbelief on my face before he breaks into a smile.

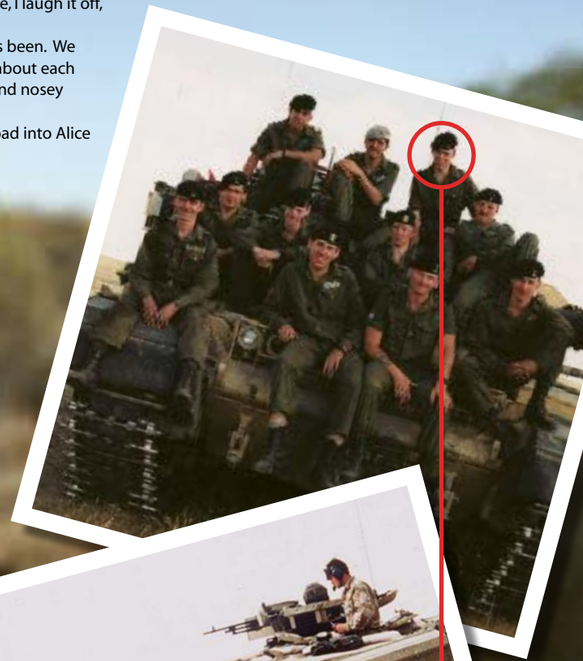
"That's fine - you're all clear mate. Thanks for your cooperation and enjoy your stay in Alice Springs."

Relieved, and seeing the funny side, I laugh it off, "Yeah, good one mate".

Off the cuff I ask him how his day's been. We subtly probe for bits of information about each other's business in a way that cops and nosey journo's do.

There are few customers on the road into Alice Springs tonight and his shift is nearly over.

After some smalltalk, I discover that the outback cop was a former soldier who had fought in the first Gulf War. "Fancy a beer after you knock off?" I offer.



DESERT RAT

From one desert to another, Phil Kellow is now at home in the red centre

DESERT RAT

Phil Kellow now works in Australia's busiest cop shop – Alice Springs

Pic by Phil Kellow

In 1986 as a 16-year-old school boy, Phil Kellow joined the British Army's Junior Leaders Regiment of the Royal Armoured Corps (JLRRAC).

JLRRAC was a recruiting scheme that belonged to a bygone era of boy soldiers who left school early to begin military training until they were old enough to go to a regular unit.

The training was tough and strict with old equipment like Browning 9mm, SMGs, SLRs, 1950's webbing and tin helmets. But at that age, the boy soldiers were all six-foot tall and bullet proof especially around the local girls.

Out on the town, the girls would ask young squadies what JLRRAC stood for. Of course, being keen to impress, the boy soldiers would puff their pigeon chests out and boast - Jungle, Light, Recon, Royal, Airborne, Commandos.

After a year of basic training followed three months trade training, learning how to drive and maintain Chieftain Tanks. Phil was posted as a crewman to the Royal Scots Dragoon Guards (Scots DGs) - Scotland's oldest and only regular cavalry regiment.

For the next two years, Phil was based in Tidworth on the edge of Salisbury plain before his regiment was posted to Fallingbostal in Northern Germany.

On 2 August 1990, millions of lives - including Phil's - were to be directly affected after Iraqi president Saddam Hussein ordered his forces into Kuwait after the country's leadership had refused to write off billions of dollars of Iraqi war debts and relinquish disputed territory.

Iraqi forces massed along the border between Kuwait and Saudi Arabia as UN diplomats began negotiations before an American-led Coalition forcibly removed Saddam Hussein.

The Desert Rats of 7th Armoured Brigade, made famous in North Africa during WWII, were warned out for deployment to the Gulf.

Rumours and counter rumour were rife around the regiment until, eventually, they did leave the snows of Germany.

"I heard we were going to war while I was in the back of a four-tonne truck, huddled round a mate's transistor radio. We were listening to the British Forces Broadcasting Service news, so we knew before the CO had a chance to tell us formerly."

At the time, Phil had mixed feelings about going to the Gulf as his regiment was about to be deployed to Northern Ireland, something he had been looking forward to.

"Most of us were very excited to be going, though. Although you worry about going to war, ultimately it's what you spend your career preparing for."

So, in October 1990, Trooper Phil Kellow found himself aboard an RAF transport plane, heading for Saudi Arabia.

On arriving in Al Jubail, the Scots DGs were billeted in huge hangers while they waited for the regiment's main armourment, the formidable Challenger main battle tank (MBT) to arrive a couple of weeks later.

Challenger was originally commissioned by the Shah of Iran, however when the Shah was overthrown in 1981 by an Islamic fundamentalist revolution, the sale of the tanks was frozen.

The British army, which desperately needed a replacement warhorse for its ageing fleet of Chieftain tanks, took the opportunity to gain a formable MBT at a bargain price.

The new tank was built to fight in the desert, had superior armour and ammunition, which gave the tankies added confidence as they prepared to be battle tested against Soviet-made MBTs.

Challenger carried 64 120mm armour-piercing fin-stabilised, discarding sabot rounds with depleted uranium warheads which improved accuracy and killing power, giving skilled crews the capability to engage and destroy targets at ranges of up to 5kms.

Today, secrecy still surrounds the Challenger's main defence - its Chobham armour technology, believed to consist of layers of nylon micromesh, bonded on both sides by sheets of titanium alloy, with several other layers of specialised armour and ceramics.

After a change of air filters and with a couple of 45-gallon drums welded to the backs for added fuel range, the Rats motored off into the desert, where they waited...and waited...and waited.

Boredom is a soldier's worst enemy. The brigade waited in position for weeks while politicians tried to beat out a peaceful resolution to the worsening situation.

Time waiting was spent brushing up on first aid, small-arms drills and Nuclear Biological Chemical drills.

It was hammered in to the troops that the Iraqi military had chemical and biological weapons and were more than willing to use them. So everyone took a keen interest in honing respirator drills.

Occasionally the regiment moved a couple of kilometres only to dig new shell scrapes and begin a familiar routine - waiting.

"We killed time by endlessly cleaning our weapons, but the sand got everywhere. We had always been told to oil our weapons after cleaning but all this achieved was giving the sand something to stick to, so it wasn't too long before you had to clean them again."

To kill the terminal boredom, each squadron was rotated through a rough and ready R&R camp, which consisted of a few marques erected on an old sheep farm.

"Lights were set up in marques so that cards and board games could be played during the night while, outside, volleyball and soccer filled in daylight hours.

"The only problem with the R&R camp was that it was still covered in sheep shit that attracted squadrons of flies. All those flies and shit meant everyone to a man went down with chronic diarrhea. It became really bad - one minute you are kicking a football and then, without warning, there's a commotion in your pants."

Each squadron built their own basic toilets or "thunder boxes" - rectangular boxes made out of ply-wood with three holes cut in the top. These boxes were placed over a hole dug in the ground in which three cut-off 45 gallon drums with bin liners were placed.

"There is no privacy with thunder boxes. You sit there on the box, often with two other blokes beside you reading the paper, answering the call of nature and all the pleasantries that go with it."

With a squadron using the thunder boxes, the bin liners soon filled up, so each troop would take turns in replacing the full bin liners and take the full ones to a shallow pit to be burnt with petrol.

Sergeant Dave had become unpopular with his troops as he was a bit jack of doing his share of work but relished the job as chief fire-starter.

This was duly noted by the boys, who decided to throw in a handful of unopened tins from their rat packs before sealing the bags for burning.

The lads took a few extra paces back as the sergeant poured on copious amounts of petrol - followed by a match.

As he stood there overlooking his "hard work", the contents of the cans expanded in the bags. Phil and his gang stood well back, quietly laughing, waiting for the fireworks.

The bags eventually exploded and Sergeant Dave, caught in the frag zone, was covered from head to toe in human waste.

"The look on his face was priceless." Revenge was served hot and smelly.

A Squadron soon found themselves back at the makeshift R&R camp for Christmas celebrations.

Improvising tankies produced their own alcohol for some extra Christmas cheer in an otherwise strictly dry country. Ten-man rat packs contain powered orange cordial,which was tipped into plastic jerrycans along with a good dose of sugar and yeast. Topping the jerrycans off, they were placed on engine decks and left in the sun to ferment.

After a few days, Phil says, as the jerrycans were bulging at the seams, it was time to get stuck in!

"This extremely potent and disgusting concoction became known as "Screech" after the involuntary noise a mouthful drew out of you."

Christmas rolled into a new year and the realisation that, in spite of the peace negotiations, it wasn't so much if, but when the fighting would eventually start.

Finally, Operation Desert Shield blew into Desert Storm on 17 Jan 1991 as the UN deadline expired and US Attack helicopters began attacking Iraqi military targets but it was to be over a month before the ground war would start for Phil and the Desert Rats.

Sitting 25km back from the border, Phil recalls the red navigation lights of the B52 bombers passing high overhead delivering their massive payloads onto Iraqi defences.

"The B52's lights would go off after passing above us and, soon after, the horizon glowed orange and red. Minutes later the rumble of the bombing would roll over us.

"While it was an awesome sight, we did pity anyone under it."

So, on the afternoon of the 25 February 1991, after more than four months of sitting and waiting, the Desert Rats crossed the border into Iraq from Saudi Arabia and turned North East towards Kuwait with orders to take objectives named Bronze, Copper, Brass, Zinc, Steel, Platinum, Lead and Tungsten.

The 7th Armoured Brigade Group fighting echelon consisting of a HQ element 2 Regiments and a squadron of Armour, a regiment and battery of Artillery, a regiment of Engineers and a battalion of Infantry crossed the border into Iraq

The Iraqis had built a good defence system along the length of the border that consisted of a huge earth berm, followed by kilometres of barbed wire, a 100-metre-wide minefield finished off with another earth berm.

The battle group crossed in single files through a narrow corridor the Americans had breached - but Phil couldn't help thinking they were sitting ducks.

"On the Saudi side of the border, everything was fairly calm, but once we crossed the border defences, it all changed.

"It was like driving into Armageddon - the sky was jet black from oil well fires - it was like going from midday to midnight in a matter of minutes."

As they formed up into battle formation on the other side of the breach, a number of Iraqi artillery shells slammed in nearby as they tried to bracket the idling static tanks.

As part of A Squadron, Phil sat there nervously waiting for the Scots DGs Battle Group of three Challenger squadrons and a Company of mechanised infantry in Warriors APCs to form up around him on the right flank of the Brigade.

This was it - finally, after four months of waiting, it was on.

"All stations. All stations. Move now. Out."

Like a waking giant, the Brigade lurched into life as it gathered speed across the Iraqi desert, turning North East towards Kuwait.

As they progressed, the battle group bypassed a huge Iraqi infantry regiment's position, which had been recently pummelled by B52 bombers.

A column of pathetic survivors drifted towards the coalition's advance tanks waving white rags and copies of the Koran, shell shocked and grateful that their war was over.

The Scots DGs first objective was 'Copper' a communications centre for the Iraqi 12th Armoured Division.

At approximately 1915hrs, the battle group rumbled to a halt to await reconnaissance reports.

Through the torrential rain that now pounded the desert a thermal image confirmed they had encountered forward elements protecting the Communications Centre.

"We had been sitting there for about 15 minutes when a troop leader came across the net saying he could see someone running around in the desert about 2km to our north.

"The CO ordered all call signs to watch their front. Suddenly, everyone started to see heads pop up and people running around in the distance. Then we saw vehicles moving.

"Once the CO confirmed it was the Iraqi communication site he gave the order to destroy it."

D squadron supported by the mechanised infantry company made the first contact.

As the Challengers began destroying enemy vehicles the infantry prepared to dismount and clear the trenches.

The APC intercoms barked the battles progress to the nervous soldiers waiting to disembark from the safety of the Warriors.

The vehicles charged forwards towards the splash from the tracer being put down by the Challengers onto their targets.

Then the dis-embark or 'debus'countdown begans for the waiting infantry.

'Three hundred-two hundred-one hundred...debus debus debus!

The vehicles braked hard-nose down, then lurched back giving the door men extra momentum to throw the heavy doors open.

"Go Go Go" screamed the section commanders over the noise of the battle and pounding rain.

The infantry were out on the ground and into the trenches like terriers down rat holes clearing them with bayonets and grenades.

To their credit the infantry company from 1ST Staffordshire Regiment only sustained five casualties and none fatal during their hour and a half assault.

Meanwhile Phil as part of the two remaining tank squadrons moved towards an Iraqi depth position where they began picking up further thermal signals.

Probing forward they began encountering dug in infantry who quickly surrendered after seeing their potential getaway vehicles quickly destroyed.

Unbeknown to the Scots DGs, the Iraqis were preparing to counter attack less than a kilometre away.

As the two squadrons advanced they were suddenly confronted by an extended line of advancing Iraqi tanks and APCs nearly a kilometre away.

Without hesitation 14 challenger tanks fired.

Phil recalls that after four months of training and waiting, the first salvo lit up the sky like Sydney Harbour on New Year's Eve.

"As quick as the loaders could reload the 120mm main guns, we fired and fired again coupled with 7.62mm GPMG rounds - it was an awesome sight."

"After the initial surprise, it was actually a massive release of frustration."

Phil says the frustration showed in a different way for one young trooper fresh out of training.

"This one guy who joined us in the desert straight from training, probably the youngest in our squadron at the time, was using night-vision sights to engage Iraqi infantry with the 7.62mm GPMG. After he took out the first group, he turned to his commander and asked where they had gone and why they where not reappearing?

"It seems that after months of endless drills and range shoots he was expecting the little green men to pop up again as if they were figure 11s at the end of a range."

The Iraqi counter attack was smashed with 11 armoured vehicles and an unknown number of trucks destroyed.

The Scots DGs exploited the position but halted soon after because of concerns that in the 'fog of war' and appalling weather conditions a hospital facility couldn't be identified.

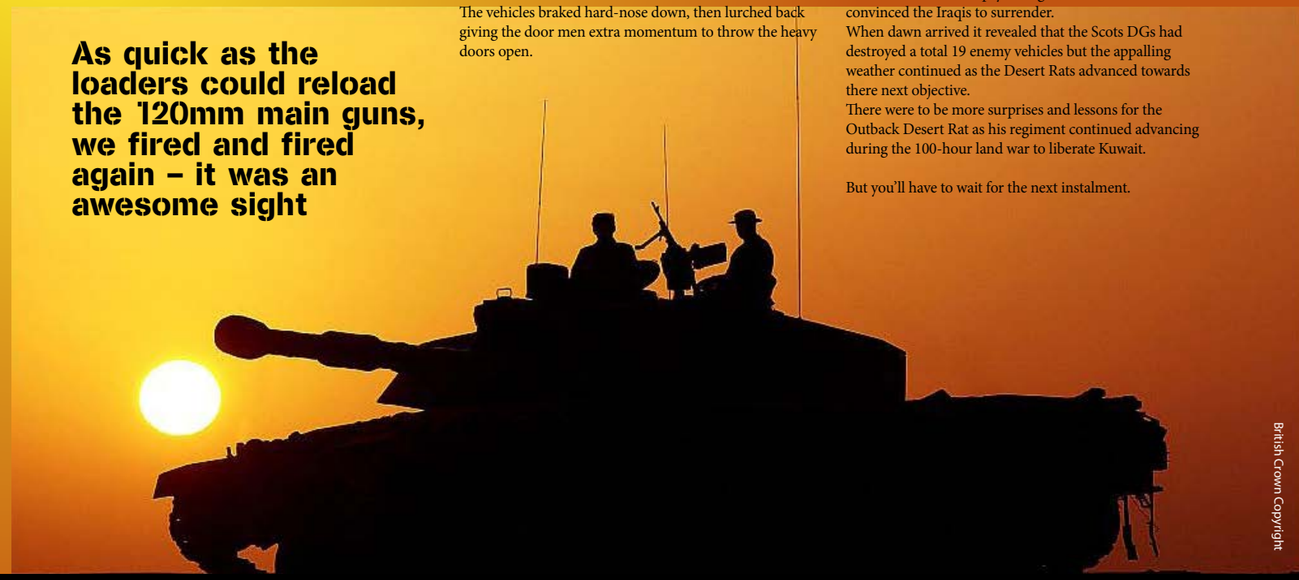
Reorganising and the battlegroup waited for daylight before the Americans psychological warfare teams convinced the Iraqis to surrender.

When dawn arrived it revealed that the Scots DGs had destroyed a total 19 enemy vehicles but the appalling weather continued as the Desert Rats advanced towards there next objective.

There were to be more surprises and lessons for the Outback Desert Rat as his regiment continued advancing during the 100-hour land war to liberate Kuwait.

But you'll have to wait for the next instalment.

As quick as the loaders could reload the 120mm main guns, we fired and fired again – it was an awesome sight



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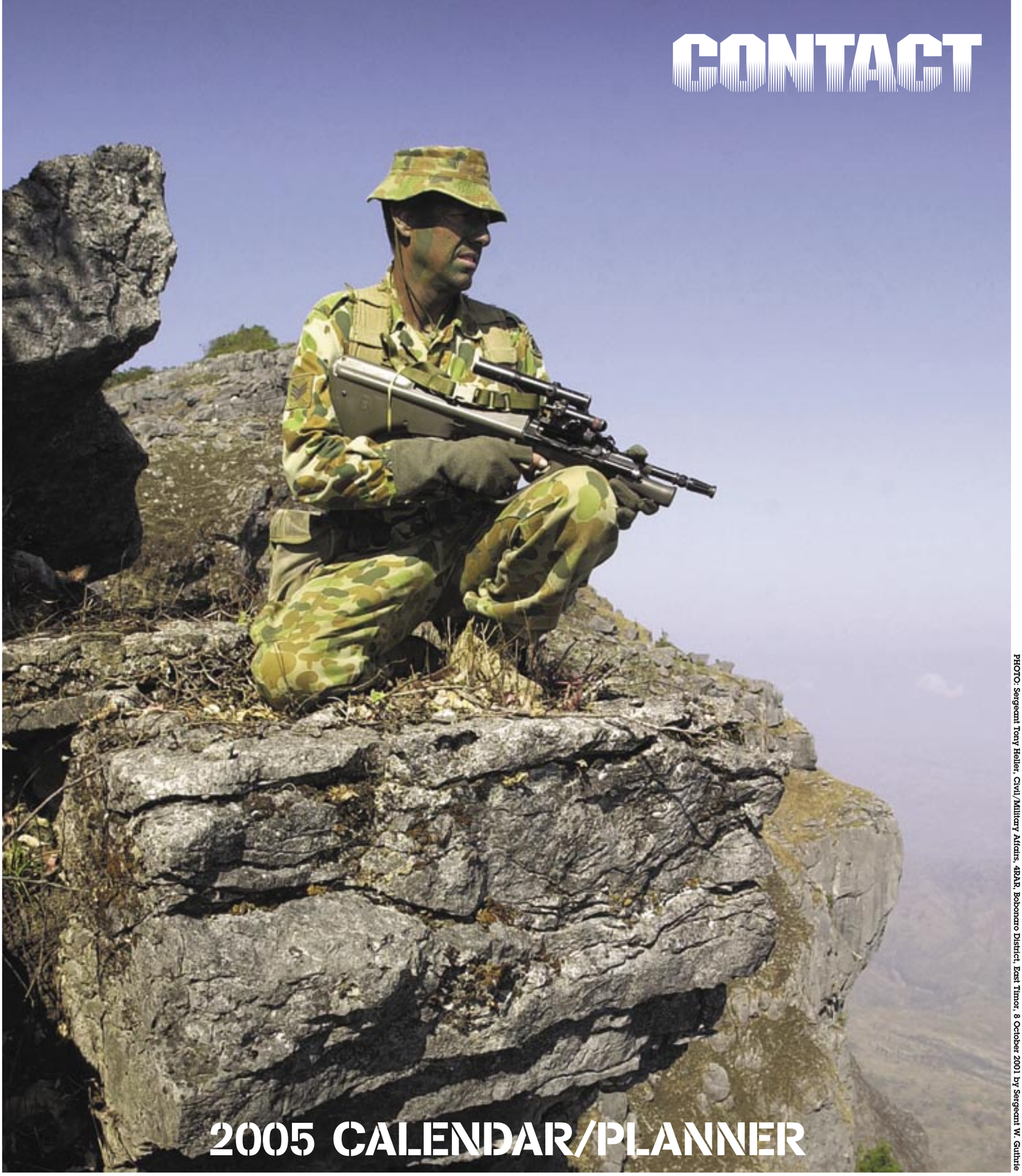


PHOTO: Sergeant Tony Heller, Civil/Military Affairs, 4RAR, Bobonaro District, East Timor, 8 October 2001 by Sergeant W. Guthrie

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	
MON								01					MON
TUE		01	01					02			01		TUE
WED		02	02			01		03			02		WED
THU		03	03 CONTACT			02 CONTACT		04	01 CONTACT		03	01 CONTACT	THU
FRI		04	04	01		03	01	05	02		04	02	FRI
SAT	01	05	05	02		04	02	06	03	01	05	03	SAT
SUN	02	06	06	03	01	05	03	07	04	02	06	04	SUN
MON	03	07	07	04	02	06	04	08	05	03	07	05	MON
TUE	04	08	08	05	03	07	05	09	06	04	08	06	TUE
WED	05	09	09	06	04	08	06	10	07	05	09	07	WED
THU	06	10	10	07	05	09	07	11	08	06	10	08	THU
FRI	07	11	11	08	06	10	08	12	09	07	11	09	FRI
SAT	08	12	12	09	07	11	09	13	10	08	12	10	SAT
SUN	09	13	13	10	08	12	10	14	11	09	13	11	SUN
MON	10	14	14	11	09	13	11	15	12	10	14	12	MON

3RAR: THE PARACHUTE BATTALION

"Old Faithful" 3rd Battalion, the Royal Australian Regiment (3RAR), is the ADF's parachute battalion group (PBG). 3RAR PBG is a flexible, high-readiness, light infantry battalion group capable of conducting airborne and infantry operations. The PBG must be prepared to conduct a paratroop inseretion as if it were conducting a combat assault onto the drop zone. The Sydney-based infantry paratroopers wear the distinct airborne-forces maroon beret with the Royal Australian Regiment's 'Skippy' cap bodge. Below is a 3RAR digger with combat equipment (CE) ready for deployment.

01 T10B-D main parachute

02 M18A1 Claymore mine and satchel

03 30m blasting-cap assembly, M57 firing device, M40 testing device

04 Folding ET (entrenching tool)

05 Kevlar helmet with Ninox night vision goggle

06 Personal webbing

07 30-round clear-plastic magazines

08 Weapon cleaning kit including rods, brushes, oil and flannelette

09 F88C Steyr, weapon sleve and sling

10 M9 bayonet

11 Night aiming device (attached and zeroed to the Steyr, used in conjunction with night vision goggle)

12 Field pack

13 Section med kit. Also, individual saline drip kit and stretcher top

14 T10R reserve parachute

15 Sleeping bag, hootchie, mozzie net and 'wimp' mat

16 Waterproofed inside pack – spare shirt, pants, socks and other personal items

17 Other items inside pack – goggles, boot cleaning kit, sunscreen, insect repellant, wash and shaving kit, sewing kit, water filter and rain coat

18 24-hour one-man ration pack, cups canteen, cooking stove, KFS (knife, fork, spoon set) and water bottles (8ltr)

19 Inside webbing – toggle rope and karabinear, cylume sticks, compas, torch, leathermans tool, cam kit, 10m hootchie cord, map, field dressings, range card, OfOI (orders for opening fire) cards, dayglow panel marker, note book, pencil and pens

20 Bush hat

UNDER THE RAVENS CLAW

The forward air controller commands the combined firepower of offensive airborne platforms on the battlefield – making him the most powerful pilot in the skies

WORDS BRIAN HARTIGAN **PICS** BRIAN HARTIGAN AND LAC EWAN GRANT

Even before the Wright brothers made the first tentative leap into the sky at Kitty Hawk a little more than 100 years ago, man – in his pursuit of technological advantage in warfighting – had turned to aircraft to give him the edge on the battlefield. As early as 1863, during the American Civil War, the first successful aerial bombing raid was recorded when Confederate forces destroyed two pontoon bridges on the Rapidan River, using dirigible airships.

Reconnaissance – ground attack – air defence – insertion – extraction – even pilotless aircraft – the list of battlespace adaptations for flying machines just keeps growing. Experimentation is rife – as long as there are wars to fight, governments with money to spend and commanders demanding technological advantage, the aviation industry will keep pumping out bigger, smaller, faster, lighter, better ways to dominate the skies over our war zones.

But at the end of the day, it's the soldier on the

battlefield who will seize and hold ground – and win or lose the war.

"The most important lesson for me was that war has to be won on the ground and that the air war must contribute to that end," says former RAAF pilot David Robson.

Dave Robson was a breed of pilot – a specialist – known as a forward air controller (FAC) who saw action close up and personal in Vietnam.

Although the popularity of, or emphasis on, forward air controlling as a capability seems to ebb and flow – especially in Australia – it is certainly in favour with the ADF at the moment.

Forward Air Control Development Unit (FACDU) didn't exist three years ago. Today it is a vibrant small unit with a big job ahead of it. Not only is it charged with guiding, developing and testing the doctrine behind the FAC capability for Australia's air-to-ground combat assets – including Tiger helicopter – but it is also just about to take on a major expansion in the ground-based control of air assets as well.

But what is FAC?

Forward air control, as a legitimate method of targeting sophisticated air assets, is popularly thought to have had its first real genesis during the D-Day invasions in northern France 60 years ago. However, Australian pilots of the RAAF's No. 4 and 5 Squadrons, operating over the jungles of Papua New Guinea, employed classic FAC tactics as early as 1943. Flying Wirraway and Boomerang aircraft, these pilots guided precision strikes by faster Beaufighters, in close support of ground troops holding out against the Japanese advance.

The basic theory behind FAC is the control and precision employment of offensive air assets to attack ground targets that are often in close proximity to friendly forces.

In this regard, FAC was extensively and famously employed in the jungles of South Vietnam where Australian pilots, like Dave Robson, were seconded to specialist American units in support of Australia's ground troops.

All Vietnam-bound Aussie forward air controllers underwent FAC training in Australia at the Joint Warfare School at RAAF Base Williamtown, north of Sydney.

With about 1000 hours fighter-pilot experience on Sabres and Mirage behind him, Flying Officer Robson underwent further training in-country at the 504 Theatre Indoctrination School (TIS - FAC U), Phan Rang, before being assigned to 19TASS, Bien Hoa and, from there, deployed to support the Australian task force at Nui Dat.

He was based at the coastal airfield of Vung Tau and at Luscombe Field (Nui Dat) where his unit maintained a TACP [tactical air control party] in support of the First Australian Task Force (1ATF).

The FACs in support of 1ATF – to which there was usually one Australian attached – were assigned the callsign Jade.

Originally equipped with Cessna O-1s, the Jade callsigns were upgraded, in 1969, to the Cessna O-2A – 'Oscar Deuce'. Robson flew the Cessna O-2A exclusively during his tour of duty from June 1969 to February 1970 and flew a total of 240 missions over 333 flying hours calling in more than 80 air strikes.

Flying the Oscar Deuce was a huge change for Robson. Not only was he stepping down from the fast jets of a substantial fighter career, but had the extra burden of switching master hand.

"Every airplane I had flown was operated with a joystick by the right hand. The throttle, radios, speed brakes and so on were operated by the left," he says.

"On top of that, I was left-handed.

"To fly the O-2, I had to change to a left-hand operated yoke in an airplane with sluggish response – compared to a fighter – and to writing with my right hand.

"It certainly was a learning experience."

Recalling the following mission, Dave Robson can give us a reasonable insight into the role and importance of the FAC to the ground forces he was there to support.

"An ARVN convoy, with US Army advisers, was in transit to their fire-support base. The VC detonated mines under the lead and tail-end APCs, trapping the entire column on an elevated road with rice paddies on either side. They were totally exposed and trapped – there was no escape.

Then the VC opened fire from lines of trees on both sides of the rice paddies.

It was a well-planned ambush. The convoy was pinned down and very vulnerable. They called for immediate air (air-strike support).

AS I ROLLED IN TO MARK THE TARGET I SAW MUZZLE FLASHES DIRECTED AT ME FROM THE TREE-LINE TO THE WEST

I was already airborne on a visual reconnaissance (VR) mission several klicks to the east. The fighters were called as I was on the way and we arrived in short time.

We cleared the Aussie helicopter gunships in first – callsign Bushranger.

As I briefed the first flight of fighters – F4s – and rolled in to mark the target, I saw muzzle flashes directed at me from the tree-line to the west. As I pulled off the marking run, a US Army officer on the ground warned there was ground fire coming at me from the tree-line to the east. I called for more air support while I directed the first set of fighters onto the target.

It was an easy target for the fighters as the tree-lines were clearly defined and there was a

CESSNA O-2A *OSCAR DUCE*

Max speed	192kts
Cruise speed	140kts
Ceiling	18,000ft
Range	1422 miles
Engines	Twin Pratt and Whitney Continental IO-360-D, Flat-six piston, 210hp each
Propellers	McCauley constant speed, 6ft 6in
Empty weight	3226lbs
Max takeoff weight	4850lbs
Wing span	38ft
Length	29ft 2in
Height	9ft 5in

CALLSIGN JADE 07

Dave Robson learned lessons in Vietnam – none more valuable than looking after the bloke on the ground.

We watched the news from the US and were shocked about the protest marches and how we servicemen were seemingly blamed for the war. Between missions, morale was generally low, but airborne was a different matter – we each had a job to do.

We looked for whatever fun or joy we could find in each day. Flying was a pleasure compared to being on the ground. We drank too much and slept too little. We played card games. We told dirty jokes. We listened endlessly to Glenn Campbell on the jukebox and we drooled over the centrefolds of Playboy magazine. That was what we were fighting for – the freedom to enjoy our way of life, and to return home to our loved ones.

In our area we experimented with air power in direct support of the troops and how to maximize the result with minimal resources – we needed accuracy, safety and low-cost weapons.

I developed a technique where I fired a pair of willy-petes [white phosperous rockets] on a marking pass – one a little short and one over the target. Initially I used it for the Aussie Canberra bombers so the pilot, and navigator, could line up for their bomb run.

The two smokes provided two references – a line for the fighters to set their attack direction, and a distance reference for aim-off.

Each fighter pilot had very different estimates of distance and, if you wanted to move an aim point say 100 metres left of the previous bomb, the result would vary from 50 to 150 meters. By using two smokes I could use proportional distance, which was consistent for all pilots. It worked very well. "Hit my smoke" became "split my smokes".

The most important lesson for me was that war has to be won on the ground and that the air war must contribute to that end.

Also, the will to win is more important than any other weapon of war.

I was disillusioned by the reaction of our people to the servicemen who served in Vietnam.

Our R&R was a week home in Australia. We were warned not to wear uniform at home as paint had been thrown over some servicemen on leave and fights had broken out. I suddenly felt that what I was doing was not appreciated and would achieve nothing in the long term. I went back to the war zone with one intention – to protect my troops on the ground to the best of my ability and to ignore the political and media crap.

RADIO

No coms, no bombs – radio is the most powerful weapon on the battlefield.

RAVENS ON THE RISE

With its popularity rising, the future of forward air control as a deathly force on the battlefield is in capable hands

After the birth of forward air control in WWII, Australia didn't employ the tactic again until Vietnam. Although Australians flew Mustangs and Meteors in Korea, FAC had fallen off the scope.

In Vietnam, although the capability was not our own, Australian pilots learned a lot about forward air control while seconded to specialist American FAC units.

But again, post war, the popularity of FAC as a precision tool on the battlefield waned. The corporate memory for the capability was invested in just three pilots, flying Winjeel, who were at various times configured as a C Flight in, first, No. 76 Squadron, then 77 Squadron and, for a period, were an independent flight.

Eventually, as Winjeel was replaced by PC9, a fourth pilot and fourth aircraft was added and, in 2001, Forward Air Control Development Unit was raised and invested with a substantial and important charter.

Today it trains forward air controllers (FACs) and terminal attack controllers (TACs – army personnel who fulfil essentially the same role but from the ground).

FACDU has an establishment of four full-time FAC pilots and three reserve pilots plus maintenance and support personnel. It also currently has two attached army personnel charged with developing and increasing the TAC capability. This latter cell is about to grow to 22 personnel in the very near future.

FACDU is also the capability standards unit for the ADF, responsible for delivering training, developing and refining tactics, testing and introducing equipment and refining inter-service and inter-agency procedures.

FACDU OC Squadron Leader Danny Carroll says forward air control is definitely no longer a single-service capability.

"Today, the Air Force and the Army work hand-in-glove to provide a means of controlling very sophisticated air assets.

"The modern battlefield is a very complex, highly technical and potentially lethal environment, and the Forward Air Control Development Unit is at the forefront of developing procedures and tactics to make the best use of our assets in a joint environment."

THE BADGE

Capable and trained in the direct and accurate application of a vast array of weapons, the modern forward air controller truly is a harbinger of death. This is reflected in the badge of Forward Air Control Development Unit.

On the back of a PC9 stands a raven, the pair atop a skull.

In mythology, the raven is the messenger of death. The inference in this symbology is that if an enemy finds an FAC above him, he can shortly expect a lethal rain of ordnance on his position.

clear area of rice paddies between the trees and the friendlies. The fighters could make a clear run along the tree-lines with high-drags and napalm.

I continued the first flight of fighters on the eastern side with 20mm cannon passes as the second flight arrived. As I briefed the second flight – F100s – and marked the western tree-line, we were able to keep Charlie's head down in the meantime with cannon fire.

The action ended as quickly as it had started. The guns went silent. Charlie had retreated – perhaps wounded – and I was able to provide top cover until relieved by another FAC – and until additional ground support arrived.

Dust-off helicopters collected some wounded."

A forward air controller is a lone-wolf type of operator on the battlefield with arguably the greatest firepower of any individual at his disposal. Apart from offensive airpower – F/A18, F-111, B1, B2, B52 and so on – he can also call upon or be asked to control naval gunfire support (NGS), artillery, mortars, heavy machineguns or even main battle tanks.

Australian FACs currently ply their trade using the Pilatus PC9 turboprop aircraft. It has three external hardpoints – two for smoke-grenade dispensers and the third for external fuel.

To mark a target, the FAC drops fist-sized Mark 18 smoke grenades of various colours that simply freefall from under the aircraft.

But this method requires the target to be directly overflown by the FAC, thereby exposing himself to a certain level of danger.

Such danger can be mitigated, however, by either flying above the operational envelope of the anti-aircraft weapons known to be on the battlefield or by flying so low as to take advantage of natural cover like hills, exposing himself only for the briefest time possible.

His PC9, too, affords him a reasonable level of agility to escape from enemy attention. With excess power he can go vertical to increase height, or full throttle in the horizontal or a dive will chew up kilometres in short order.

It has a good speed range, capable of loitering on the battlefield at 120kts to conserve fuel or, opened up, can transit at up to 300kts [555km/hr].

The PC9, however, is employed in Australia purely as a training and capability-development aircraft. It will never be used on operations, except in a desperate defence-of-Australia type scenario. The role in war would, in theory, be left to an F/A18-borne FAC, although, with limited modification, Hawk could be adapted.

Describing a typical deployment on today's training battlefield, Commanding Officer FACDU at RAAF Base Williamtown, Squadron Leader Danny Carroll conveys a sense of the complexity and workload placed on an FAC during a modern training mission.

"In Australia, FACDU will deploy – for example on Exercise Pitch Black – as a unit to somewhere like RAAF Base Tindal in the Northern Territory and set up an operations cell at the airfield.

Much of what we do these days is aided by computers – on the ground and in the air.

In preparation for a mission, we will get intelligence feeds, ground-threat scenarios and, eventually, a tasking message. Once we have these three pieces of guidance, we formulate a plan.

Mission planning is generally done at least 24 hours and sometimes up to 72 hours in advance.

Once the plan is made, the unit goes into a domestic cycle to make sure the aircraft is on line, full of gas and bombed up to the configuration I want for the mission profile. After pre-flighting the aircraft and configuring the cockpit to suit the task, I will fly to the area of operations.

GPS

Global positioning system – accurate navigation aid to reduce human error

PILATUS PC-9/A(F)

Type designation	A23
Wing span	10.24m
Length	10.18m
Height	3.28m
Empty weight	1700kg
Max takeoff weight	3200kg
Max speed	593km/h
Max ferry range	2700km
Max combat radius	650km
Service ceiling	25,000ft
Engine	Pratt and Whitney PT6A-62 turbo prop, 950shp (limited)
Propeller	Hartzell constant speed, 2000rpm

WE NEED TO ACHIEVE MAXIMUM DAMAGE TO THE ENEMY BUT AT THE SAME TIME MINIMISE THE DANGER TO FRIENDLIES

Flying in and out of the battlespace is all done tactically with designated entry and exit points that are strictly controlled by ground-based agencies using encoded messages.

Once in the area, I will do some reconnaissance to familiarise myself with the features of the area and commence map preparation.

At this stage I would typically be handed from the controlling agency to the ground unit I'm there to support and begin a comms flow to fine-tune the exact mission.

Sometimes the offensive air support will already be in the area – in a holding pattern – and other times I simply wait for them to arrive.

Once they are on the scene, I own them. My job is to give them the data they'll need to prepare their weapons systems to the configuration required to take out the target. The type of weapon to be dropped, the direction and angle of attack, the altitude I want them to drop from and the exact time I want the bombs delivered are all determined by me and passed on to the fast-jet pilots.

A mission might call for a high-level attack from 25 or 30,000ft or it might require a low-level pass at just 250ft, or it might be some form of dive-bombing – the decision is mine, but was, most likely, made in the planning stage back at base.

Timing is a critical factor – all players must be working to the same timeline. Artillery may need to be lifted – but not too early – and the friendly unit engaged with the enemy will certainly want to know when to expect bombs down range.

The total flow of the mission could be anywhere up to 15 minutes from first contact with the offensive air, but the actual mission from "go" to impact is exactly six minutes – and that's usually accurate to just seconds either way. Onboard computers on the fast jet will let the pilot know at all times exactly what speed he needs on every phase of his run to achieve that exact window.

What we try to achieve is an extremely quick process because generally the reason we are there in the first place is that our guys on the ground are being attacked while all this is happening.

Once the jet is on its final approach for the weapons-delivery pass, I am talking to the pilot constantly – one-on-one – to make 100 per cent sure he is aiming for the right target. We need to achieve maximum damage to an enemy, but at the same time, with minimum danger to the friendlies. Remembering that I own that weapon and that aircraft – I am legally responsible for the damage it causes. I will not give him, "Clear, hot" until I'm sure he has acquired the right target.

Once the bombs have been delivered, I observe the target for weapons effect and determine if a second attack is required.

Mission complete, the ground unit hands me back to the area controlling agency and I either move on to another mission or depart the area through an exit control point, and then back to base where ground-crew repair the aircraft if required, and prep it for the next mission.

I will then complete a comprehensive post-mission debrief, submit a written report and contact numerous relevant agencies, reporting on

VC WINNER FLYING STILL

The four aircraft of FACDU are named in honour of four Australian aviators who have won the Victoria Cross.

Squadron Leader Danny Carroll's plane is named in memory of Flight Sergeant Rawdon Hume Middleton who on 28 November 1942 took off on his 29th bombing operation, for Italy. His Stirling bomber was struck by flak over the target, one shell exploded in the cockpit almost killing him, and wounding the second pilot and wireless operator. As Middleton lost consciousness, the second pilot brought the plane under control just 800ft from the ground.

When Middleton regained consciousness he resumed control for the long flight back to England.

Over English soil and with only five minutes of fuel left, five of the crew safely bailed out. Two others, who delayed their exit to help Middleton head the plane back out to sea, drowned.

Middleton then crashed the Stirling into the sea and was killed.

For his actions, he was posthumously awarded the RAAF's first Victoria Cross.

The RAAF's other VC winners were Flying Officer William Ellis Newton and Wing Commander Hughie Idwal Edwards. Lieutenant Frank Hubert McNamara of the Australian Flying Corps was the first Australian pilot VC winner, in 1917.

RANGEFINDER

Laser range finder connected to GPS for metre-accurate grid references

FORWARD AIR CONTROL IS A CHALLENGING AND REWARDING, SELF-SUPERVISED JOB – THE CLASSIC LONE-WOLF OPERATOR

the weapons expended, weapons effects, damage to the aircraft or injury to aircrew, among other things. Any intelligence gathered is passed on for dissemination to interested battlefield agencies."

Whether in training or on operations, the FAC pilot will attempt to play his game of death as safely – for himself – as possible. The main reason, apart from the obvious self-preservation, is capability preservation.

"If we're out there too gung-ho and get shot down, then we're no good to man or beast," Squadron Leader Carroll says.

As a training aircraft, the PC9 is perfect – fast, aerobatic and, above all, very cheap to run, at least compared to the pure jets.

Pilots attracted to FAC as the next step in an established flying career are relatively experienced. Most are second- or third-tour pilots with up to 1200 hours experience – at an average age of 24.

"In military speak, a guy at 24-years-old is an experienced pilot. He could have walked through the door at 18 and been qualified on something before he turns 19," Squadron Leader Carroll says. "And by the time he comes here he's done two or three flying tours."

So why would a young pilot want to join Forward Air Control Development Unit?

That's an easy question for Danny Carroll – "Simply because it's great fun, the aircraft is great fun and, unless he's been a fighter pilot, he won't have had the opportunity to fly an acrobatic aircraft. He'll get to fly at very low altitudes a lot and drop things off the aircraft. He'll also get to see and control an awesome range of weaponry that most people will never get near. He will also get to travel all over Australia – enough to be fun but, unlike many Defence jobs, not enough to be a drag."

But, Squadron Leader Carroll says, forward air control is ultimately a very challenging and rewarding, self-supervised job – the classic lone-wolf operator.

AMPHIBS ON THE WAY

Ian Bostock takes a close look at proposed plans to equip the Royal Australian Navy with new amphibious ships.

The project to acquire two landing helicopter dock (LHD) ships for the Royal Australian Navy (RAN) is one which, despite its $2 billion price tag, has snuck in under the radar of many defence commentators and interested observers. Which is kind of surprising considering it will transform the Australian Defence Force (ADF) like no other capital equipment acquisition program over the next decade.

Under Phase 4 of Joint Project 2048, the RAN will take delivery of two of the biggest ships ever to be constructed in Australia. At a displacement of 25,000 plus tonnes, the LHDs will be the biggest ships of their type in the entire Asia-Pacific and second only in size to the giant 40,000 tonne Wasp and Tarawa-class amphibious assault ships operated by the US Navy.

The current build schedule has the first Australian LHD entering service in late 2010, with the second to follow about five years later. The LHDs will take over the role presently undertaken by the two 8500 tonne LPAs (HMA Ships Kanimbla and Manoora) and the landing ship heavy HMAS Tobruk. A sealift capability, probably comprising several smaller ships of a different type, will enter service in the 2017 timeframe.

To give some idea of just how big the LHDs will be, think of the RAN's old aircraft carrier HMAS Melbourne. She was 213m long and displaced some 20,000 tonnes. Think also of the Royal Navy's Invincible-class carriers at 209m in length and displacing 20,500 tonnes full load. Each LHD – they will be identical twins – is likely to end up being at least 220m long and have a full load displacement of up to 27,000 tonnes.

These ships are no RAN pipe dream; they are right now the subject of an ongoing competitive evaluation of two competing foreign LHD

designs and feature strongly in both the RAN's and Australian Army's capability and operational concept development.

Essentially, the LHDs will exist to support the Army and will each be able to transport, accommodate and offload a 900-strong landing force plus support personnel. Working together, the two ships will be able to lodge a landing force of around 1800 troops, which is about equivalent in size to a US Marine Expeditionary Unit.

They will form the nucleus of any amphibious task force Australia deploys post 2010, transforming the ADF's ability to operate effectively in littoral environments, whether in our region or further afield. For Army, deploying in the LHDs will enable a combined arms battlegroup to lodge at a time and place of its own choosing, then redeploy at will. Back in international waters the amphibious task force can threaten to put its land combat elements ashore anywhere within a 500nm radius, making such a force very hard to defend against.

When you consider that each LHD is required to hangar at least 12 medium-size tactical trooplift helicopters, four landing craft able to take the Army's new M1A1 AIM (D) Abrams main battle tank (MBT), and several hundred wheeled vehicles of various shapes and sizes, the ships are destined to be a quantum leap forward in every respect.

In terms of combat troops carried, each LHD is expected to be able to accommodate (have bunks for) around 900. This number is the actual landing force that goes ashore.

The ships must also be capable of providing the necessary command, control and communications to direct the battlegroup's amphibious landing and follow-on forces.

Depending on the force mix deployed, each LHD must be capable of operating six trooplift choppers simultaneously from its full-length flight deck. The aft deck of the LPAs can manage the operation of just two S-70A-9 Black Hawks at once. An entire Amphibious Aviation Combat Team (AACT) – which contains anywhere from 174 to 220 troops – will be able to be deployed via helicopter. Effectively replacing the standard reinforced rifle company formation, the AACT is to include all the plug-and-play fighting elements required to provide the full spectrum of infantry-centric combat capabilities: 81mm mortar teams, 7.62mm anti-personnel and 12.7mm anti-materiel sniper teams; Javelin assault weapon teams; engineers and so on.

The M1A1 Abrams, ASLAVs and (by then) upgraded M113AS3/AS4s would come ashore via a new generation of landing craft designed as integral components of the LHD and built under a separate phase of JP 2048.

THE CONTENDERS

The RAN and Defence Materiel Organisation are currently evaluating two ship designs to fulfil the LHD requirement: the BPE (Buque Proyeccion Estrategica) from Spanish shipbuilder Izar, and the BPC (Batiment de Projection et de Commandement) from the French group Armaris.

Izar is building a single BPE for the Spanish Navy under a euro360 million (roughly A$620 million) contract and is due to deliver in 2009. The BPE is an all-steel vessel of fairly conventional monohull design, with a large stern docking well and two dedicated vehicle decks for both soft-skinned and armoured vehicles.

The BPE destined for Spanish service has a 27,000 tonne full load displacement and is 231m long overall. It has been designed to carry heavy and bulky loads such as Leopard 2A5 MBTs, Pizarro tracked infantry fighting vehicles, 155mm self-propelled and towed howitzers and heavy engineering and plant equipment.

A cargo lift located forward on the port side permits the handling between the two vehicle decks of 20ft ISO containers and vehicles up to 16 tonnes. Two starboard side ramps/doors enable loading/unloading of heavy vehicles from wharf facilities alongside.

Accommodation is provided for 1200 embarked personnel plus 243 crew (all ranks) for extended periods. This comprises around 900 troops, plus 170 air group personnel, 100 headquarters staff and around 20 naval landing group personnel. This is a standard, not emergency, load.

The six-spot 202m-long flight deck has been designed to enable the simultaneous take-off/landing of six NH 90 tactical transport helicopters or four CH-47D Chinook heavy lift helicopters. The flight deck is linked to the 1000sq metre helicopter hangar via two aircraft elevators, each large enough to take the F-35 Joint Strike Fighter. Helicopter operations are possible day and night and in conditions up to sea state 9.

In its 69.3m long, 16.8m wide docking well, the BPE carries four landing craft mechanised (LCM) and four rigid hull inflatable boats (RHIB) during transit. The docking well is flooded to enable the LCMs to undertake ship-to-shore movements and the RHIBs to deploy personnel, such as special forces from over the horizon. The docking well can operate larger craft such as the US Landing Craft Air Cushion (LCAC) hovercraft but not carry them.

The twin diesel and podded propulsion system pushes the BPE to a maximum speed of 21 knots, with a 9000nm range achievable at an economical cruise speed of 15 knots.

Because the Spanish Navy intends to operate the BPE as an occasional fill-in aircraft carrier when required, it is fitted with a ski jump to permit the operation of its AV-8B Harrier II short take-off and vertical landing aircraft. As Australia's LHDs will not be pseudo aircraft carriers, this feature is not offered on the design proposed for the RAN.

With an overall length of 199m and at 21,500 tonnes full load, the two BPCs under construction for the French Navy (better known as the Mistral-class) are substantially smaller than the BPE. However, the LHD being offered by Armaris to the RAN more closely resembles the original BPC design that incorporates an additional 14.5m-long hull module, extending overall length to 214m.

Despite the extra length, the flight deck still sports six helicopter spots. The BPC has been designed from the outset to operate the NH 90 and the Tiger combat helicopter, both of which are nearing their entry into French Army service.

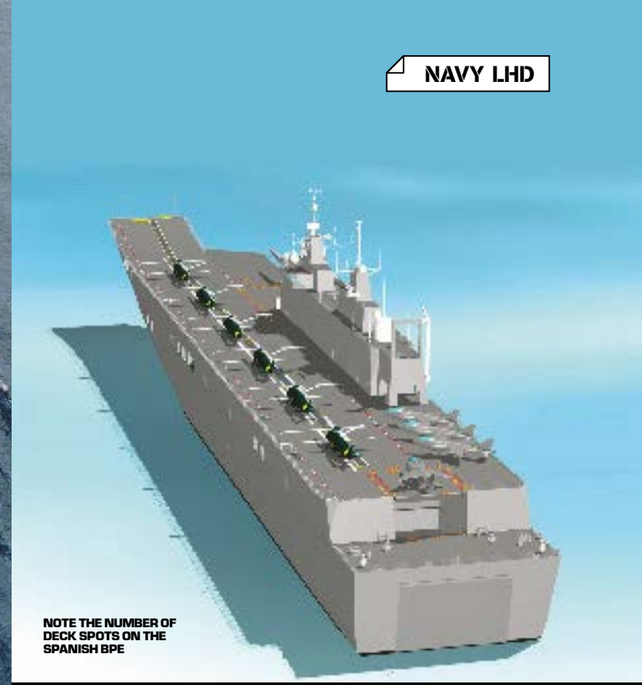
Sixteen NH 90s (or a mix of NH 90s and Tigers) can be stowed in the hangar, but only after reducing the vehicle load. Designed to operate in concert with landing platform dock (LPD) amphibious ships, typical loads would include 450 troops plus 16 NH 90s and two LCACs, or one-third of a mechanised regiment complete with supporting armour and equipment and four LCMs. A 69-bed hospital is a standard onboard facility.

THE LHDS WILL EXIST TO SUPPORT THE ARMY AND WILL EACH BE ABLE TO TRANSPORT, ACCOMMODATE AND OFFLOAD A 900-STRONG LANDING FORCE PLUS SUPPORT PERSONNEL

THE FRENCH MISTRAL-CLASS BPC UNDER CONSTRUCTION

PHOTOS MARINE NATIONALE

AFT VIEW OF THE IZAR BPE AS DESIGNED FOR THE SPANISH NAVY



NOTE THE NUMBER OF DECK SPOTS ON THE SPANISH BPE

LANDING MUCH HEAVIER LOADS

FEATURE	EXISTING LPA	NEW LHD
Displacement (full load)	8500 tonnes	At least 25,000 tonnes
Overall Length	168m	220m
Troop Load	450	Approx. 900
Deck Spots	3	6
Hangar Capacity	4 medium helos	12 medium helos
Vehicle Load	Several dozen	Several hundred
Service Life	15 years max.	25-30 years
Landing Craft Carried	2	4

It is understood that the BPC can carry MBTs the size and weight of the M1A1 Abrams but only at the expense of its four embarked LCMs.

Maximum speed and range is given as 19 knots and 11,000nm (at 15 knots cruise speed) respectively. Sufficient stores, fuel, oil and water can be carried to grant an endurance of 45 days.

Regardless of the winning design, it is likely that the ships' self-defence armament suite will consist of medium calibre cannons (25mm) and one or more gun-based close-in weapon system.

As far as can be ascertained, the BPE more closely meets the RAN's high priority requirements than the BPC, particularly in the critical areas of troop load and vehicle lane metres.

Such paper analysis aside, the RAN's new LHDs will be based very closely on one of these ships, with 'Australianisation' of design kept to a minimum to reduce financial and technical risk.

The preferred bidder will be selected in 2005.

Ian Bostock is an independent defence analyst and the Australian correspondent for **Jane's Defence Weekly**

BOYS OF BOMBER COMMAND

Bomber Command absorbed just 2 per cent of Australia's young men committed to fight in World War II but accounted for 20 per cent of her total loss of life in the conflict – 3486 killed in action. Flt-Lt Reg Boys DFC was among those who survived to tell his tale.

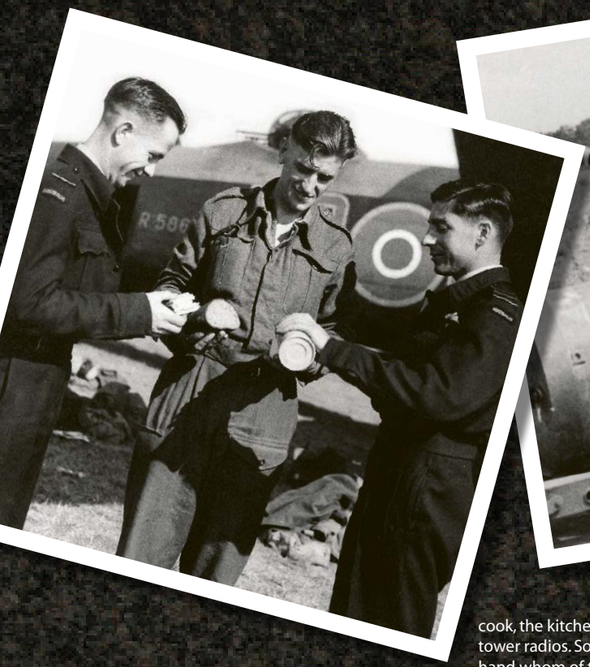
WORDS **BRIAN HARTIGAN** PICS **REG BOYS AND WADE LAUBE**

RAAF's No 467 Sqn, with a full-strength compliment of about 140 aircrew, recorded almost 800 casualties in just 28 months – replacement and reinforcement barely able to keep ahead of the statistics. Of the 590 men killed in action in this one squadron alone, five were commanding officers.

Confident in the strength of his European defences early in the war, Herman Goering assured his Commander-in-Chief, Adolf Hitler, "No enemy plane will fly over the Reich territory". In defiance of this boast and with a statistical average life expectancy of just 13 sorties, Sydney-sider and navigator Reg Boys flew a remarkable 40 operational sorties over enemy territory – 11 of them over the very heart of the Reich – Berlin.

After completing his training in Australia, Canada and England, Reg Boys was posted to RAAF's No 467 Sqn as a navigator on Lancaster heavy bombers in June 1943.

NAVIGATOR
Reg Boys (third from left) kits up for another raid over the Reich territory



Over the course of the next eight months, Reg flew three more than his required 30 operational sorties before transferring as an instructor to 27 Operational Training Unit. A little more than a year later he was back with 467 Sqn and completed a further seven raids over Reich territory before peace was declared.

A typical operational day for a bomber crew could last up to 15 hours from the time they reported for briefings until they brought their aircraft home.

A bombing raid over Reich territory was an awesome thing. As many as 1000 heavy bombers taking off in waves, five minutes apart, from numerous bases across southern England, each carrying an almost seven-tonne bomb load.

For the individual crews, the Lancaster was not the most comfortable mode of transport. Although the cabin had some heating, icy drafts from many orifices and joints blew through the fuselage, which itself was a single thin skin of aluminium holding out freezing temperatures – and frostbite was not uncommon. Crew discomfort was added to as low air pressure and a sustaining pre-flight meal combined to produce internal winds of a more personal nature.

Getting to or away from the target area was not easy – the crews gambling their lives on each occasion. Reg says the flack was so thick some times he often imagined they could land on it. But, thankfully, they always seemed to be able to fly above it.

Barely a mission went by that someone didn't come home, however, and, oddly, according to Reg, it was the people on the ground who seemed to feel the loss most. The ladies in the kitchens seemed hardest hit. It was their duty to feed the men before and after a mission.

Each aviator was rationed in for one egg after his flight and to keep tabs on how many eggs to cook, the kitchens were tuned in to the control-tower radios. So it was that the cooks heard first-hand whom of the men they had fed just hours earlier would miss out on the one little luxury afforded them despite the general rationing across the country.

Reg and his crew were presumed lost one night when they had fuel problems and had to land at another airfield overnight and had missed a meal.

"When we got back to base the next day, there was this amazing feeling among the dozens of people who came out to greet us – there was almost a family relationship between everyone."

The closest Reg recounted coming to actual grief was on one mission when, shortly after departure, the cabin began to fill with smoke. As with most aircraft immediately after takeoff, the plane was far too heavy to attempt a safe landing. Setting a course for The Wash – an area of sea off the English east coast – to dump their bombs, Reg then assisted all available crew to search for the source of the smoke.

Unsuccessful in finding any fire, the captain decided to press on for Dusseldorf – this night's target. In the confusion, Reg had not followed his charts and it took some time to get his bearings in the blackness of the night. No sooner had he satisfied himself of where exactly they were than the aircraft was locked in the converging beams of several searchlights – an occurrence as dangerous as it was unnerving.

"Corkscrew starboard," a gunner called out. The pilot immediately threw the sturdy Lancaster into an evasion manoeuvre the crew had discussed and practiced many times. Inputting full aileron control to turn the wings vertical, then kicking in full bottom rudder, the heavily laden bomber entered a vertical dive before pulling out in a corkscrew turn at the bottom – successfully shaking the attention of the lights.

The Lancaster was a pretty big airplane to throw around the sky like that, but Reg says she could handle it.

"The pilot would never pull a stunt like that without asking first or without the call from the gunners or someone else, however. That's how much of a crew we were – a unit."

On another occasion, Reg remembers the confidence of his training kicking in to again possibly save his comrades.

Europe and England was pretty dark at night because of the blackouts. Navigation was assisted by pathfinder bombers who dropped marker flares at mission-designated points to give navigators a fix.

"One night, coming home from Berlin, I had no sooner said, "We should be seeing the markers any minute now" than the pilot spotted them way off to our left."

"Should we fly to it?" the pilot asked.

"No, let me make a check – no, I'm sure the PFF [pathfinder flight] have made a blue – they've dropped the markers north of the wrong town."

"Are you sure?" the anxious pilot demanded.

"Just keep an eye out to port. If I'm right, those other guys will cop the flack over the islands in about four minutes.

"And sure enough, just on four minutes later, the sky off to our left lit up with a barrage of flack."

THE BOMBER

Reg Boys reflects on surviving a distinguished career in Bomber Command

Inputting full aileron control to turn the wings vertical, then kicking in full bottom rudder, the heavily laden bomber entered a vertical dive

Rather than bask in his own sureness, however, Reg joined in a silent vigil as the crew rode, mentally, through the barrage with unseen colleagues.

Reg says a quiet prayer never went astray.

"I figured there must be someone out there looking out for us and I was never afraid to say a quiet prayer before takeoff.

"But I was never one for leaving things to luck.

"Some guys seemed to live in the moment, but I always had a mind to the next night and the night after that. I remember one crew that was having a hell of a party one night and the next night they went missing. Now, whether the two were connected or not you couldn't tell – or were they just unlucky.

"I didn't like to leave anything to luck, and that was the way our crew always worked, and we survived to tell about it."

On 7 May 1945, Reg Boys, navigating for squadron OC Wing Commander Ian Hay, flew a "cook's tour" of German cities to observe the effects of bombing raids and to assess airfield suitability to accept heavy aircraft.

Web Site Special

Read the longer version of Reg Boys' story and meet S for Sugar – one of only 34 Lancaster bombers to complete more than 100 missions – on our web site www.militarycontact.com

WHERE THE WILD THINGS ARE

Following Kenny's mishap with the exploding ammunition, Wayne Cooper and 23 Section finally set off on their first African patrol.

WORDS WAYNE COOPER PICS PETE REEVES, WAYNE COOPER & ADF

The Somali bush was like nothing we had experienced. As inhospitable as any Australian terrain could be – and there were strong similarities with our arid inland regions – nothing compared with what we experienced on the horn of Africa. During the five months we spent in Somalia, I only ever saw one type of plant – other than crops – that didn't have a thorn or barb of some kind. If you could image the worst of the Aussie bush, then add wooden claws and teeth to everything, you would be close.

The main features of the Somali landscape were the Camel Thorn forests. These dense collections of impossibly tough but sinuous flora were an enemy in themselves. The plant was a tall, twisted nightmare of needle-sharp, two-inch thorns that could literally tear the flesh from your body. If the thorns did pierce your skin, sap would remain and, in concert with sweat, dirt and the chaffing of your clothing, would leave a painful boil-like sore that could linger for weeks.

If you snared yourself on a branch and tried to continue moving forward without disengaging, you were in for a painful encounter.

The gnarled branches of the Camel Thorn tree were incredibly strong but flexible. The branches flexed like a compound bow until they reached a point where they

snapped back and the thorns would tear through whatever was caught in their fierce grasp.

As Cavalry soldiers in our M113 Armoured Personnel Carriers (APCs), my comrades and I were partially immune to the menace, unlike the infantry, who were fated by their chosen career to walk amongst the demon (for which they earned my undying sympathy and respect).

The brunt of our engagements with the plant were met by the armour of our vehicles. That said, the hardened thorns could leave gouges in the compressed aluminium armour, puncture steel jerry cans and tear thick canvas like tissue paper.

However, travelling in our 13 tonnne armoured vehicles did not make us totally immune to the ravages of Camel Thorn. Driving through the Somali landscape at speed brought its own dangers. Camel Thorn branches could reach in over the vehicle, into the driver's hole or turret, and grab at a crewman's vulnerable face as he drove by at up to 60km per hour.

and conduct patrols through the streets for most of the night.

As we rolled through the bush we started to notice what appeared to be improvised mine or booby trap markers – small groups of rocks piled into a pyramid. A careful search around these markers, the lack of any craters and the apparent frequent use of the tracks by the locals dispelled our suspicion somewhat, but all eyes were on the ground ahead as we moved on. Future investigation by the Engineers and intelligence from locals were to turn up an alarming number of mines in the ground around Baidoa. But, for now, we had to take all reasonable steps to avoid them while continuing with the task at hand.

There was a real aversion among the infantry – or Pedes (short for Grunt-a-pede) as my section commander Corporal 'Moose' Ferriday had christened them years before – to riding inside an APC when a mine incident was likely. The theory was that if you hit a mine in an APC, the would shatter and become effective shrapnel. This effect could be lessened by sandbagging the floor of the vehicle or the application of bolt-on belly armour. We were not using either.

On Operation Solace we were sans-belly armour as the resource was not stored at the squadron's barracks. When it was requested through the logistics chain, it could not be located in time for our rapid departure to Africa. Rumour had it that some resourceful Q'ies in Bandiana had, over time, cashed in the aluminium at recycling facilities to boost there social funds. This may have been an urban myth, but whatever the reason, the result was the same. There were more than a million mines in the ground in Somalia and we were all inadvertently playing Russian roulette.

Despite the complaints of the Pedes and their appeals to the "I'd rather take my chances on top" theory, it was part of SOVOs (Standing Orders for Vehicle Operation) that everyone had to ride with their torso inside the vehicle. Despite being illegal,

Much to his disgust and not without protest, the injury was to keep Ken away from the section, working in HQ for almost a month. His place in 23 would be filled by other members of the squadron and Lance Corporal Mick 'Micky P' Holmes would ably step up into the 2IC role while Kenny was away. Although the first replacement for Ken would prove to be somewhat ill fitted within our section, the second reinforcement would fit right in... but that's a story for another time.

Ken had been unlucky – or lucky, depending on your point of view – as the wire had only ignited one round. Ken's finger would always be about two centimetres shorter than it ought, and would resemble a mangled chicken drumstick for quite some time. "Mmm... finger-licking good" someone had later commented on inspection of Kenny's ragged digit, after which Ken presented his intact middle finger for inspection.

As we rumbled around the outskirts of Baidoa, the recon platoon commander helped Moose

moved off. It seemed we were being followed at a distance and anyone covertly doing so would have to be considered suspicious in the extreme. We all got our first sniff of possible action and the excitement quickly grew.

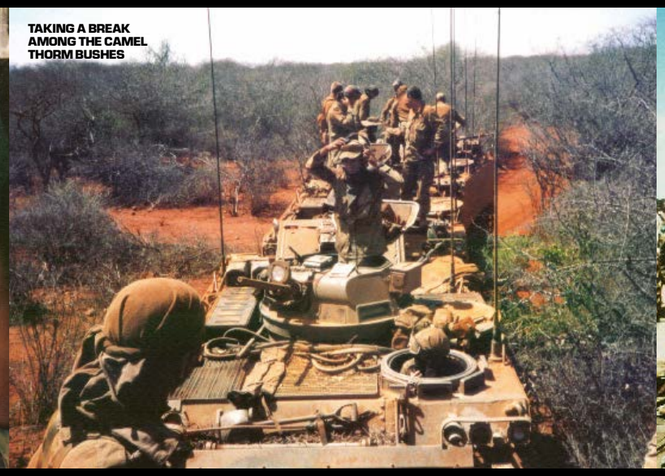
A quick plan was hatched and we peeled off to try to get around behind the offending vehicle. Moose sent a quick contact report over the radio to the Patrol Master back at the airfield, reporting contact with a possible enemy vehicle as we sped off. With 23B leading the way, the Pedes in the back braced themselves for a wild ride as the drivers put the throttles to the floor.

In hindsight, putting in a quick ambush and waiting to see what came up the track may have been a better option, but the surrounding bush was pretty sparse at that point and even in the fading daylight our vehicles would be visible from a fair distance. We could have also dropped the infantry, kept driving and let the offenders drive into their ambush. But the decision was made.

tracks seemed to parallel each other and it was impossible to tell which track the stalkers had taken. With the dust cloud moving off in the general direction of both tracks, Mick and Eddie in 23B sped off down the right-hand fork as Pete and I careened down the left. Moose and Johno, following in 23, slowed up at the intersection to wait and see who came upon the offending vehicle before coming in to assist.

The tracks stayed roughly parallel for about 500 meters and through the fading light I could see 23B barrelling down the other track about 50 meters away. As the sun rapidly fell towards the horizon the dust cloud we were following became harder to discern against the hazy skyline. I locked my vehicle's turret-mounted .50 and .30cal machineguns tighter into my shoulder as we rounded the corners at about 60km per hour. I half hoped and half dreaded coming upon a battered technical, like the ones we had seen on the television before leaving Australia. But, alas, no 4x4

EDDIE AND KEN CATCH UP ON SOME LITE READING



TAKING A BREAK AMONG THE CAMEL THORM BUSHES

EDDIE TAKES ABREAK IN SPARSE SHADE

The Camel Thorn tree grew from a single trunk, but its spiked branches grew out almost horizontally a few inches from the ground, meaning you had to push through a couple of metres of thorns before you could knock down the trunk. If a section of vehicles was pushing its way through a forest, the vehicle in front could lever forward a thick branch, which then swung back at the vehicle behind like a catapult.

As Two Three (23) section conducted its first reconnaissance task in the bushland surrounding the inland city of Baidoa, we experienced the blight of Camel Thorn first hand. The larger tracks we followed were well used and mercifully clear of the plant, but as we moved further away from town the Camel Thorn closed in. This was to be the first of many unpleasant encounters.

We were working with Recon Platoon for the evening, having already dropped off several sets of Sniper pairs and watched them slink off into the landscape. Our task was to locate possible observation post locations for use by the platoon in the future. Later we would move back into town

ON THE WAY OUT THE FRONT GATE OUR SECTION 2IC HAD THE TOP OF HIS FINGER BLOWN OFF THANKS TO A LOOSE WIRE IGNITING SOME AMMO

fragmentation of the hull and the overpressure contained within would surely kill you. However, if you were sitting on the top you could be thrown off the vehicle and possibly survive.

Now, there was some well-founded logic in this theory. Vietnam had shown that when an M113 rolled over a big enough mine or IED (improvised explosive device), even if the hull was not breached, the high-tensile steel torsion bars, which aided in the suspension of the vehicle, the Camel Thorn alone was usually enough to deter passengers from riding topside.

The anxiety of possible encounters with mines was not helped by the overcrowded state of our APCs. On the way out of the front gate of the Baidoa Airfield, our section 2IC had the top of his index finger blown off thanks to a loose wire igniting some ammunition in his turret. Lance Corporal Ken Nelliman reinforced his reputation as a tough bugger by holding his shattered finger above his shoulder to slow the blood flow and nonchalantly suggesting we take his passengers in the remaining three cars and crack on while he had what remained of his finger seen to.

The three remaining vehicles were filled to overflowing with the Snipers, Recon Platoon and their equipment as we headed out on our first job as a section. "But we have not even made it out the front gate," I sighed to myself as I watched Kenny's car turn around and head back to the squadron compound. I was not one to believe in omens – this was just bad luck – but it was a rather uninspiring start to 23's tour.

navigate using the handheld GPS he had brought with him from home. The Battalion Group had GPS units, but they were few and far between and didn't often make it down to section/platoon level. The mostly flat, featureless terrain of Somalia was covered with endless criss-crossing tracks that were easy to confuse with the seemingly random scribbles on the old maps.

The maps we had been given were at least 30 years old and produced by Russian surveyors who worked with Russian translations of Somali names. The result was locations who's names we could barley discern and who's positions seemed to be placed on the map with a close-enough-is-good-enough standard.

Even with GPS, the change in magnetic north in the intervening 30 years, the disregard for accuracy in geography and naming conventions, and the lack of discernable landmarks meant navigation was hit and miss at best.

While we had been driving through the scrub, one of the Pedes had noticed a dust cloud appear a couple of hundred meters behind us as we

It was apparent almost from the get go that those in the vehicle following us had realised we were coming for them and they took off in the opposite direction. The chase was on, and my driver Pete Reeves, like the other drivers, Eddie Edwards and Andrew 'Johno' Johnston, in 23B and 23 respectively, were all relishing the chance to throw their vehicles down the track with something between disciplined precision and reckless abandon.

The old tracked M113s were not exactly built for high-speed pursuit, but the dirt road was pretty rough and the old girls could cover bumpy ground at relatively high speed compared to a conventional wheeled vehicle.

Despite the low probability of catching the stalkers, we were up for the chase and the possibility of our first encounter with an enemy technical (the four wheel drive vehicles the Somali warlords fitted with high-calibre guns and anti-armour weapons) kept us flying down the track toward the retreating dust cloud.

As we came upon a split in the road, both

mounted with 60mm Boffors anti-aircraft guns or Russian 12.7mm machineguns lay in wait for us.

The tracks moved further apart and I lost sight of Micky P in 23B. Just as I started to realise we were about to break the first rule of armoured warfare in rushing on to meet a possible threat alone, Moose came over the radio and told us to stop as soon as we lost sight of each other.

With adrenaline still pumping through our veins, Pete and I slowed to a halt as I heard Micky P's voice in my helmet acknowledge he had lost sight of us. We reversed back up the track around a few corners before turning the vehicle around and heading back to Moose with the turret traversed over the back of the vehicle.

The sun slipped below the horizon as we headed back into Baidoa to begin our first night patrols in the city.

Day one on the job had been exciting to say the least. But the night was to bring its own excitement as the 1RAR Battalion Group attempted to assert its authority over the wild metropolis.

GAME REVIEW

VIRTUAL BATTLE SPACE ONE

BOHEMIA INTERACTIVE
PC
www.virtualbattlespace.com
A$200 + add ons

Training software used today by some of the world's top military and law enforcement organisations was initially developed as Operation Flashpoint. Far more sophisticated than the usual military-themed games, Flashpoint won countless awards in 2001-2004 including Game of the Year, E3 Best Simulator, and is still a worldwide hit.

The concept of developing a military version of this technology began in mid 2001 as Virtual Battlespace One (VBS1) at the Australian Office of Bohemia Interactive Studio (BIA). With direct input from the USMC and other military bodies, BIA developed a customised military version of the original game-engine technology to allow USMC forces and other militaries to 'play' war games and rehearse actual missions.

VBS1 was created for and has previously only been available to the military and other government agencies. VBS1 is essentially Flashpoint filtered through military requirements, digested, recompiled to their expectations and needs and shaped to be the most effective commercial off-the-shelf (COTS) virtual training tool available.

The copy I received contained some of the recent updated modules to the training software, updated weaponry, vehicles and soldier units, all created and tuned to direct feedback from organisations such as the ADF, USMC and others. From my copy, I could immediately see the incredible quality and accuracy that the models portrayed. Inside the case were three CDs and what I initially thought was a USB memory key. Turns out this little USB key is the only way the application will run, it must be connected to the USB port for VBS1 to function.

The other function that the USB key provides is the ability to encrypt data so that it can only be read by specific copies of VBS1 with the right key. This means that content that is created can be locked to a specific organisation and not used anywhere else. Very good for making sure sensitive material can't be used outside of a specific organisation.

Everything about VBS1 was created based on input directly from the military organisations themselves. Weaponry, vehicles and even satellite terrain has been based on these same requirements imported directly from map data – accurate to one meter.

The engine is based on Flashpoint technology, but the VBS1 engine has been developed further to allow for much more complex functionality and scripting in response, I imagine, to the requirements of military customers. The new functions allow for a lot of possibilities when creating scenarios, providing for much more dynamic missions, truly allowing almost anything to be scripted into the training scenario.

I found the quality of the units exceptional. Attention was paid to the smallest detail. There are smoke grenades, grenades and pouches modeled accurately. Lifelike faces – complete with facial expressions and blinking eyes – really help to create an immersive experience where no part of the system drops the ball in quality.

Weapons and vehicles are all very detailed and suit the new units very well. Equipment is modeled accurately, providing everything needed to simulate a modern-day scenario. The addition of animals is fantastic and really adds to the experience. I was laying prone, looking down a hill at some OPFOR camped below. Something flashed in front of the scope of my M24 and was gone. I jumped up and looked in the direction it would have gone and saw a fluffy rabbit darting away. Needless to say, I tried to take him out but found he was very agile and hard to hit!

Vehicles and weapon systems in VBS1 are fantastic, I think the best was the AV-8B which is definitely the best fun in the air I've had to date. Vertical take off and a very smooth flight system made it my favorite to explore the islands.

A wide range of Aussie battlefield weapons are modeled – M4A5, SR98, F-89A1 Minimi, F-88A1/C/S Steyr and the recently introduced Javelin. All the ADF's primary vehicles and aircraft including the Black Hawk, ASLAV, F/A-18, C130J and SAS LRPV are also beautifully modeled and used. Also, the second installment of the ADF pack will be released in coming months, and includes all ASLAV variants, Bushmaster, Tiger ARH, F111, M113, NH90, M1A2, M978 support vehicles, M88, M198 155mm Howitzer, L119 105mm field gun, CH-47, Rapier SAM, UAV system, SR-98 – and more in development.

The AAR2 module (After Action Review 2) allows training officers/users to look back at actions taken by the unit they commanded as a whole or review each individual soldier. AAR2 files can be viewed at any time and shared. It's also possible to trigger the AAR2 during missions – on events, point of contact, area specific or record the complete mission. Events can be re-wound and played back to allow disection of specific actions or analyse the cohesiveness of an entire section or platoon. Accuracy, wounds, hits, kills, ammunition spent and many other things are monitored to give detailed feedback on a soldier's performance. This is a big part of what makes VBS1 a training software of choice for today's military.

Terrain includes some of the islands we all know and love from Operation Flashpoint. The detail and quality of Malden, Everon and Kolgjev has all been brought up to Nogova's standard, if not beyond. Also there's a desert island, perfect for Middle East scenarios as well as the "Core Island" featuring beautiful Australian countryside. My favorite was the Australian-looking island, naturally. The trees, bushes and terrain all looked great and I immediately recognised it as Australia.

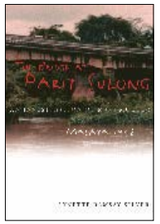
Normally with AI in games you can always outsmart OPFOR in some way – take advantage of their limitations – but I didn't really have much luck in this regard with VBS1. They use suppressive fire, fire on the move to keep your head down and split up into groups, flanking you while another provides support.

Its possible in the near future we may see a special version VBS1 being used to attract men and women into the ADF and SASR – a little like the America Army project – but from what I've experienced in VBS1, its hands down the better warfare simulation engine.

For gamers interested in the latest advancements of the Op Flashpoint engine, you cannot go further than VBS1. It is hands down the only way to go, as it is the actual tool today's military forces are using to turn young men and women into real soldiers. Being specifically designed for themilitary, it's more expensive than an average game, but the fact is – this is no game.

RATING ★★★★★

BOOK REVIEWS



THE BRIDGE AT PARIT SULONG

LYNETTE SILVER
WATERMARK PRESS
$39.95
www.watermarkpress.com.au

Written by one of Australia's most respected investigative historians, The Bridge at Parit Sulong is Lynette Silver's ninth book.

The Bridge at Parit Sulong is historical detection at its very best and CONTACT has learnt that the Commonwealth Graves Commission may be about to investigate the claims made in this book's revelations.

In January 1942, as the Japanese pushed the main Allied army down the Malay Peninsula, two under-strength Australian infantry battalions, a handful of gunners and a depleted Indian contingent held back a vastly superior enemy force.

The battle was one of the most desperate fighting retreats of WWII for which the Australian commander Lieutenant Colonel Charles Anderson was awarded a VC.

After four days of relentless combat, they reached the bridge at the village of Parit Sulong only to find it in Japanese hands.

Unable to break through and unwilling to surrender, Anderson gave the order, "Every man for himself". Left behind at the bridge were the badly wounded – more than 100 Australian and 35 Indian soldiers, expecting Red Cross protection. This was not to be, and what followed was one of the most infamous massacres of the war.

The Bridge at Parit Sulong tells, for the first time, the full story of this epic battle, and its appalling aftermath. Through dogged research, including an examination of the battle site, Lynette Silver has pieced together a story of heroism, mass murder and barbarism.

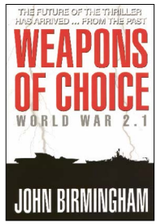
For 60 years, the names of the Australians murdered at Parit Sulong, the location of their remains, and even the killing field itself, were unknown. In this gripping account, the author unravels these mysteries and reveals the fate of many other Australians who, until now, have simply been listed "missing in action".

This book traces in detail, the story of all these events and how, through an intricate legal chase, the Japanese responsible for the massacre were finally brought to justice.

Lynette Silver recived an OAM for her work with veterans and their families also an ADF comendation for her work on Australian Special Forces, the first civillian to be so honoured – proof indeed she knows her stuff.

Chances are you will hear a lot more about this book after its launch in mid September.

— Sean Burton



WEAPONS OF CHOICE

JOHN BIRMINHAM
WEAPONS OF CHOICE WW2.1
A$30.00
www.panmacmillan.com.au

Most novels fall fairly easily into a genre that is easily identified. Some cross more than one. While a few attempt to cross several, it has been my experience that not many do so successfully. It seems the most successful have usually been in the horror and fantasy realms, genres that are more amenable to the broad scope required.

But what if you're a fan of the techno-thriller, alternative history, time travel, or future warfare novel? In this book, John Birmingham embraces all these genres and delivers an exceedingly readable and exciting yarn, one that will leave you thinking for days after you put it down.

Weapons of Choice begins in the near future with a UN naval armada preparing to intervene in civil unrest in Indonesia in 2021. Among the state-of-the-art war vessels are Australian, British, Japanese, German, Russian and US forces, continuing decades-old War on Terror. The armada is also escorting a science research ship whose crew are conducting experiments in quantum physics. Birmingham poses the first of many ethical questions when the experiments go tragically wrong and Man's attempts to play God lead to disaster, with the bulk of the UN force being sent back to 1942 – into the middle of the US force steaming to Midway for their fateful encounter with the Japanese.

With the UN force's self-defence systems all but wiping out the 1942 US fleet before any human can intervene, the warriors from the future face a trans-dimensional dilemma of epic proportions. Do they use their awesome weaponry to right the wrong they have visited upon the allies or do they let history adjust to the obscenity they have caused? Can they stand back and watch the horrors of WW2 unfold or are they morally bound to intervene?

For me the most important point in the successful telling of this story was the reactions of its characters to the situations they found themselves in. Too often in film and novels the characters accept fantastic circumstances and seem to adjust to the outrageousness of events with no real impact on their psyche. In Weapons of Choice, Birmingham explores the past/future shock with vigour, and it's this, on top of great story telling, that ultimately makes the novel such a good read.

Weapons of Choice is highly recommended to military and non-military readers alike.

— Wayne Cooper

RATING ★★★★★

EXERCISE PITCH BLACK

PITCHED BATTLE

Pics Australian Defence Force

Australia's largest air force exercise thundered through the skies of the Northern Territory in July and August as more than 75 aircraft and 1500 personnel from four different air forces took part in Exercise Pitch Black '04.

Regular visitors to Pitch Black, Republic of Singapore Air Force and Royal Thai Air Force were welcomed by Air Marshal Angus Huston, Chief of Air Force, as were first-time participants, France.

"Exercise Pitch Black is of great importance to Australia not only because of the high-complexity air-combat training opportunities it provides but also because of the invaluable opportunity it gives us to strengthen ties with our international friends," Air Marshal Houston said.

"The maintenance of our capability in the air is dependant on regular training and regular exercising. This exercise is aimed at the higher end of the combat spectrum and will provide vital training for pilots and ground crew.

"We have successfully introduced many new initiatives this time around, and all of our successes demonstrate that we are well on the way to creating the networked airforce of the future."

Exercise Pitch Black, a biennial event, ran from 19 July to 5 August.

AWM P01531_010

LANCE CORPORAL FRANCIS CURRAN, DCM

THE BOMBER

With the skill and athleticism of an A-grade cricketer, the khaki-clad figure repeatedly fielded the hissing bombs in mid air as they flew towards him.

WORDS WO1 DARRYL KELLY PICS AUSTRALIAN WAR MEMORIAL

With no time to hesitate, yet with deadly accuracy, he hurled the bombs back to their senders. Those missiles that managed to escape his agile hands fell spluttering to the trench floor, only to be smothered with a sandbag or flicked back over the parapet.

Francis Patrick Curran was born in Tenterfield, NSW, in 1887. On joining the workforce, he became a carter and postman by trade. Young Frank was also a very keen sportsman, excelling at football and boxing. In September 1914, Australia, now at war by virtue of being a member of the British Commonwealth, called for volunteers to join a military force to go to Europe to fight the German oppressor.

Like so many of the mates with whom he had attended school and played sport, Curran joined the queue at the local enlistment office. As a result of growing up in a country town and his choice of trade, Frank was a very competent horseman. It was therefore not surprising he was assigned as to the 7th Light Horse Regiment (7LHR).

The unit, as part of the 2nd Light Horse Brigade, departed Sydney by ship in late December 1914, bound for places Frank had only read about in school geography books. The troops arrived at Mena Camp near Cairo, Egypt, on 1 February 1915.

After months of intensive training in hot, sandy conditions, the infantry battalions of the AIF got the order to move. They were fit, tanned, raring to go – in their own minds, invincible.

As the trains carrying the troops to waiting ships pulled out from Cairo station, the departing Diggers shouted boisterously as they waved farewell to the light horsemen who were to remain behind. With shoulders slumped, a dejected Frank returned to the camp. (Initially, the light horsemen were considered unsuitable for Gallipoli, but were later sent as reinforcements, without their horses.)

The landing at Gallipoli did not go well for the Allies. In the early days of the war, the losses suffered by the infantry were severe. Additional fresh forces were required to bolster the tiny beachhead before the ANZACs were pushed back into the sea. To a man, the troopers of the light horse volunteered to double as infantry. They had come a long way to fight for their country – with or without their horses.

Frank slammed home the bolt of his .303 rifle and threw his bandolier over his shoulder. Finally, it was the light horsemen's turn to show the Turks a thing or two.

7LHR disembarked at Gallipoli in late May – just in time to help repulse a series of savage attacks by the Turks. The troopers had barely reached the relative safety of the Australian trenches when they were suddenly exposed to a style of warfare they had not encountered before – nor been trained for – hand-thrown missiles.

Grenades had not been issued to the landing force, so these were weapons that were unfamiliar to the ANZACs. However, the Turks had an endless supply of bombs – round black metal missiles, about the size of a cricket ball, with a few seconds' fuse. Initially, to retaliate, the soldiers had little option but to retrieve these bombs before they exploded and return them to their owners. However, it was not long before the resourcefulness of the Diggers led to homemade bombs being manufactured on the beach, using jam tins filled with any available scraps of metal they could find.

Curran, now a lance corporal, soon showed the worth of his deadly throwing arm. His ability to catch the incoming bombs in mid air and to then launch the projectiles into the enemy lines with deadly accuracy became legendary. In their letters home, the troopers paid tribute to his bravery and the skill and audacity of his daring exploits.

By August, the campaign had developed into a prolonged war of attrition. In an attempt to break the stalemate, the British High Command devised a plan for a landing at Suvla Bay, while at the same time creating a series of diversions along the ANZAC lines. These diversionary actions at Chunuk Bair, The Nek and Lone Pine – names that would become etched in history as places where so many heroic young Australian and New Zealand soldiers died – were scenes of some of the bloodiest battles fought on the peninsula.

As the New Zealanders battled their way up the slopes of Chunuk Bair, the 8th and 10th LHR were suffering heavy casualties at The Nek.

Wave after wave of ANZACs, brandishing fixed bayonets, charged the Turkish lines, only to be cut down by a wall of bullets. Each new line of attackers had to scramble over the dead bodies of mates who had been alive just a few minutes before. (In 1919, when a group of ANZACs returned to Gallipoli to give their dead a proper burial, at The Nek they found more than 300 Australian bodies in an area smaller than a tennis court.)

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Meanwhile, the infantry assault on the fortified trenches of Lone Pine was to continue for four days of mostly hand-to-hand fighting. On reaching the enemy trenches, the Diggers found them covered with thick pine logs. In some places, the attackers had to break through the roof with their bayonets, before dropping into the inky darkness to engage the defenders. No quarter was asked or given by either side. This protracted action resulted in the loss of more than 2000 Australians.

The 7th Light Horse was rushed in to consolidate the infantry gains. Curran immediately made his way to the unmanned forward trench and prepared to engage the enemy in a bombing duel, the action at which he excelled. The screams coming from the enemy positions indicated that his bombs were right on target.

Two troopers rushed in to assist.

Curran calmly turned to them between throws and said, "I can handle this. You just keep me supplied with the ammo". Weaving along the length of the trench, Curran would light the fuse with one hand and throw with the other.

At times he caught the Turkish bombs like a cricket ball in mid flight and threw them back before they exploded.

However, some Turkish bombs did get through and, as they lay spluttering on the trench floor, Frank would either flick them over the lip of the trench or smother them with a sandbag. He kept this up for hours, unwilling to rest before the Turks withdrew. For his acts of bravery in the Lone Pine trenches, Curran was awarded the Distinguished Conduct Medal. It was the first awarded to a member of the 7th.

Frank's daring exploits did not end at Lone Pine. In September, as a result of another hostile encounter, he was Mentioned in Despatches. During this engagement he displayed exceptional bravery, impeding a Turkish bombing attack single handedly while in full view of the enemy.

Following the successful evacuation from Gallipoli in December 1915, the ANZAC forces were withdrawn to Egypt to rearm, reinforce and re-equip. The regiment became part of the ANZAC Mounted Division, joining the forces defending the Suez Canal against an anticipated invasion by the Turks across the Sinai Desert.

Curran, now a corporal, watched enviously as the infantry battalions boarded the ships to transport them to the Western Front. The light horsemen were to stay behind in Egypt to continue the fight against the Turks.

But Frank was convinced the desert would become the backwater of the war. He decided to take matters into his own hands, stowing away on a ship bound for France. Once there, he was sure he would be able to secure a posting to the infantry. His mates tried to conceal his absence, but when the ship docked in Marseilles, Curran was discovered. His dreams of staying in France were shattered when he was branded a deserter and returned to Egypt under close arrest.

The news on his return to Egypt was that the Turks had attacked the British garrisons at Katia and Oghratina, and that his regiment had gone into action to defend the vital Romani tableland. In doing so, the Mounted Division successfully halted the advance of the Turkish juggernaut as it swept towards the Suez Canal.

Curran was spoiling for a fight. Seizing an opportunity, he escaped from his guard and made his way, unarmed, to the front line.

On reaching the battlefront, despite having no weapon, he set about helping the stretcher-bearers with the casualties.

Learning that some wounded troopers were still lying in no man's land in the blistering heat, Curran set forth on a one-man rescue mission. Under heavy fire and with no protection, he carried the stranded Diggers back to the safety of his own lines. Time and time again, he braved enemy fire to collect yet another wounded comrade and drag him to safety.

On Curran's fifteenth rescue sortie, a Turk fixed his rifle sight on the unarmed Digger and squeezed the trigger. In the blink of an eye, Frank Curran was dead – a bullet had pierced his heart.

Today, in the immaculately kept Kantara War Memorial Cemetery, just a stone's throw from the Suez Canal, one can visit the final resting places of light horsemen who died in the desert campaigns of the Great War.

Among them you will find a weather-beaten grave. Etched in the headstone are the words, In Memory of Corporal Francis Patrick Curran DCM.

NOBBER ON THE MARCH

WORDS JONATHON GARLAND ILLUSTRATION GREG@TWIST

The unit to which Nobber was posted was taking part in a barracks-wide fundraising drive for the local chaplains. Nobber's new OC had decided his unit's contribution would be to have a team of sponsored soldiers march, in rotation, non-stop more than 1000km to a base in another city. The OC outlined his concept and called for volunteers.

Nobber considered this to be one of the most ridiculous ideas he'd ever heard.

Nevertheless, he put his hand up. He reasoned that, being so new to the unit, he would be considered an unknown quantity and passed over for selection but, by being seen with his hand in the air, he would gain the benefit of seeming a keen team player. And there was a promotion course coming up in the near future – who knew what might happen if he was at the forefront of the OC's thoughts?

His gamble paid off when he received an approving glance from the OC but was not selected to be part of the six-man squad.

Taken in by his own brilliance, Nobber set out to cement his place on course by earning a reputation as a bright, active go-getter. He sought out tasks with single-minded determination, loitering around the orderly room and getting underfoot like a helpful puppy. NCOs became fond of the phrase, "Nobber, go and empty the bins".

Some six weeks later, Nobber was summoned to the OC's office.

Nobber was gleeful, sure his hard work in being at the top of the volunteer list was about to reap dividends for him. In his mind he rehearsed a few modest, acceptance-of-praise speeches and started going over the kit he would need to take on course with him. He had not yet learned that a summons to the boss's office was, without exception, to be dreaded.

He marched up to the OC's desk and executed a snappy salute.

"Ah, Nobber, just the man I wanted to see. I've been hearing some very good things about your performance."

Nobber fairly beamed.

"I understand you've been very supportive of this challenge of ours."

Nobber snapped out a crisp affirmative. Of course he'd been supportive – this was the OC's pet project.

"You've been training with the team, haven't you?"

Another affirmative, although perhaps not so enthusiastic this time. Nobber was not fond of the Army's requirement to exercise and considered walking from the lines to the unit and back each day to be pretty much his side of the bargain. Nevertheless, in order to present himself in the best possible light, he had thrown off his distaste for exertion just enough to pace the members of the team as they trained.

"And as I recall, you were one of those who originally volunteered, weren't you?"

Back on firm ground, Nobber brightened again and barked out an affirmative response so fast and sharp it cut the air.

"You have a military licence, don't you Nobber?"

Now, a military driver's licence was a valuable commodity. Possession of such an item guaranteed the owner a multitude of thankless, time-consuming extra duties. So, those who had them kept the fact to themselves. But Nobber, caught up in his own cleverness to the point of invulnerability, automatically threw out another short, sharp, freshly creased positive response.

"I have some good news for you, Nobber."

A little warning light went off in the back of Nobber's head. Inexperienced as he was, even he knew that officers and soldiers had completely different and mutually exclusive ideas about the definition of 'good news'.

"One of our team has been nominated for a promotion course and can't participate."

Nobber's face went white and he experienced a sudden feeling of vertigo, as happens in that split second when you trip at the top of a flight of stairs and realise you have no chance of regaining your balance before gravity works its magic and introduces you to the hard reality of downward momentum. He frantically sought speech with a suddenly dry mouth but it was now, of course, far too late.

"As you've been doing the training, I'm going to slot you into the vacant place. And your licence means you'll be driving one of the support vehicles as well."

Marching *AND* driving? Nobber mentally bounced down the stairs, his world wheeling around him.

The OC nodded dismissal. Nobber saluted clumsily, hitting his nose in the process, and executed a wobbly about turn. He made it to the end of the corridor before having to pause and lean against the wall for support, as his mind ran circles looking for a solution.

The Chief Clerk came out of the orderly room, nearly bumping into him - for the hundredth time that week - and Nobber looked up at the senior soldier imploringly, hoping against all hope and evidence to the contrary for a way out of his plight. The sergeant looked the hapless soldier up and down, noting - and misinterpreting - his air of desperation.

"Nobber, go and empty the bins."

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