THE BUSHRANGER STORY

'... and so, a Gunship was born'

by Wing Commander Brian Dirou, DFC (Retired)

Foreword

This story describes the development and introduction to operational service of the Royal Australian Air Force 'Bushranger' Iroquois helicopter gunship during the Vietnam War, a derivative of the Bell UH-1H that was unique in the world.

The first-hand account of this project by Wing Commander Brian Dirou, DFC (Retired) records a highly successful and enterprising endeavour accomplished within No. 9 Squadron to provide a very effective intimate close air support weapons capability that reflected typical Australian ingenuity.

The story graphically depicts several action events to demonstrate the need for the gunship capability and the effectiveness of the Bushranger concept, also the operational discipline and intimate teamwork necessary in very close quarters engagements with the enemy. Australian and New Zealand Air Force, Navy and Army personnel involved in these actions are also mentioned.

Humourous and sad anecdotes balance the story and some moving poetic tributes are also included.

The tale reflects appreciable credit upon the Air Force.

The story is an ebook of 65 pages embracing 102 illustrations (no audio).
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'... and so, a Gunship was born'

by Wing Commander Brian Dirou, DFC (Retired)

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Prologue

A unique version of the ubiquitous Bell Iroquois family of helicopters, identified as a 'Bushranger' gunship, was created by No. 9 Squadron, Royal Australian Air Force during the Vietnam War. The emergence of this military capability is outlined in the story which derives principally from my personal recollections of happenings during progression of the Bushranger development project. The events related have been correlated with official unit records (where existing) and/or verified by dialogue with others with whom I served in that theatre of war.

This story includes the following segments embracing supplementary documents reflecting various aspects of No. 9 Squadron unit history:

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'... and so, a Gunship was born'

by

Wing Commander Brian Dirou, DFC (Retired)

Introduction

This story describes the development and introduction to operational service of the Royal Australian Air Force 'Bushranger' helicopter gunship, a derivative of the Bell Iroquois family of aircraft that was unique in the world. The need for this capability arose through organizational difficulties encountered during Australian/US Army combined military operations in the Vietnam War.

'The Bushrangers' painting by Barry Spicer – Copyright © Brian & Diane Dirou, 2001
Limited Edition series of 600 prints

No. 9 Squadron aircraft losses and personnel casualties were low over 5.5 years (2,000 days) of Vietnam War involvement reflecting efficient conduct of battlefield support operations and there were hundreds of instances where the squadron was directly involved in ground battle scenarios. The 58,768 hours flown by this small squadron well exceeded the air effort by any Air Force unit in any campaign in RAAF history. The abbreviated accounts of some operations reflect the proud tradition of a fine Air Force unit that gave dedicated support to

the Royal Australian Navy during World War 2 and the Australian Army plus allied forces in the Vietnam War. Some personal observations are embraced to ensure that invaluable lessons of war are not lost in the mists of time.

From Sydney to Jungle

On the 7th of March 1968, I flew Qantas B707 to Singapore (luckily First Class) in company with an Air Force Nursing Sister who was proceeding on posting to RAAF Butterworth Malaysia. After a very pleasant dinner at 'Raffles' Hotel, I boarded a Pan American Boeing 707 for Saigon feeling a little jaded and obliquely thinking 'war might be fun'.

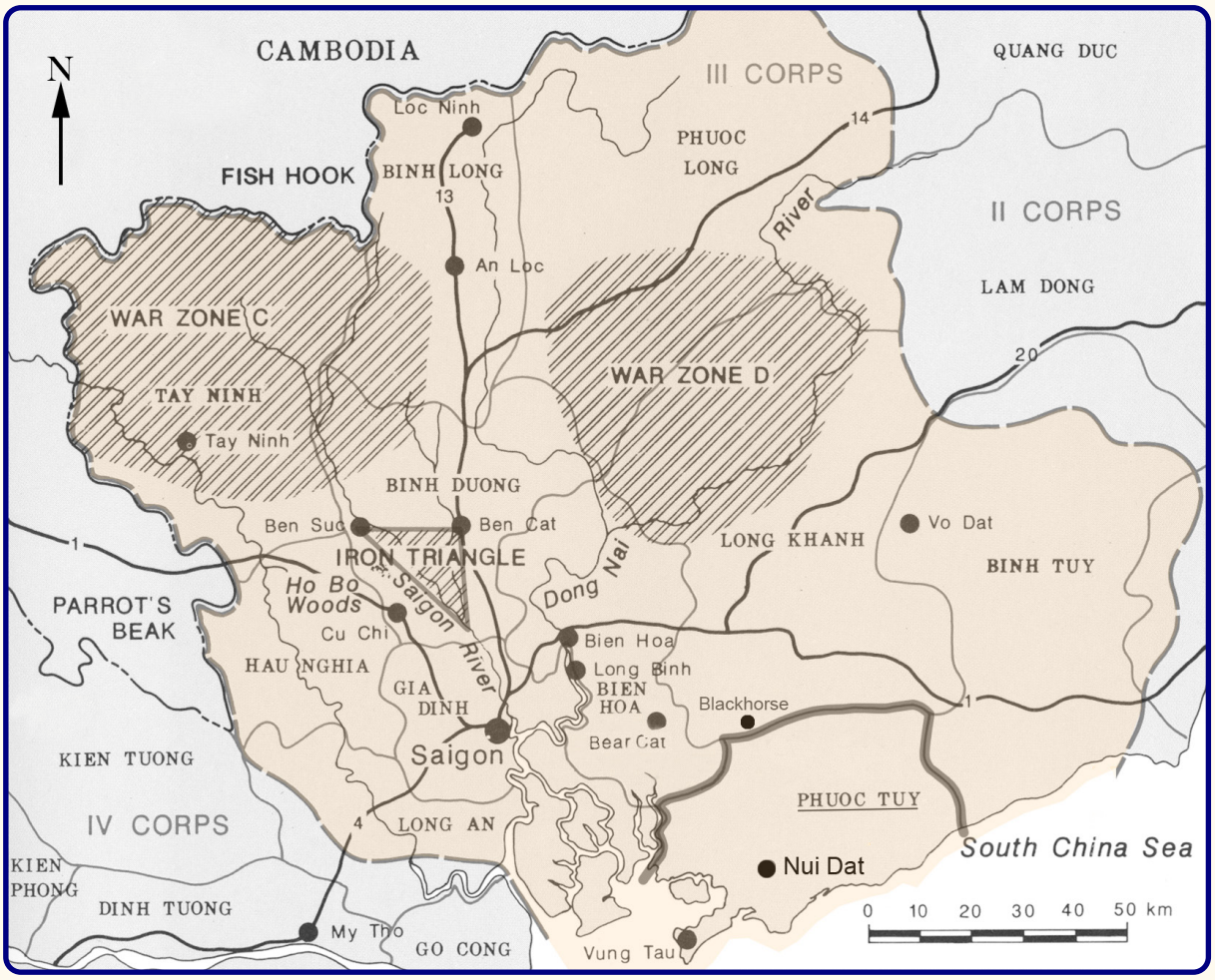
The arrival at Tan Son Nhut (Saigon airport) was sobering and as we taxied past the smouldering ruin of the control tower, helicopter gunships were in action on the airfield perimeter adjacent to the taxiway. On entering the airport terminal, I observed several holes in the roof from mortar fire and shrapnel littered the floor although human behaviour seemed more or less akin to any busy airport. Air Movements staff soon located me and I was hustled to a waiting USAF C130 for transfer to Vung Tau. Vietnamese civilian passengers with caged chickens and ducks were seated on the floor between cargo tie-down straps tensioned across the aircraft. As the flight was low level, I viewed the beauty of the Vietnam countryside through the open aircraft ramp presuming that my introduction would be leisurely enabling me to fully recover from my Singapore sojourn.

No. 9 & No. 35 Squadron hangar at Vung Tau airfield

On arrival at Vung Tau, I was swiftly conveyed to the No. 9 Squadron/No. 35 Squadron hangar where somebody told me to park my baggage, handed me a weapon and said: 'Jump in that Huey'. Within about 27 hours of departing peaceful Sydney, I was among a crew depositing an Australian SAS patrol into a bamboo-covered area somewhere in Phuoc Tuy Province. Perhaps needless to say, my transition to Vietnam active service was somewhat bewildering!

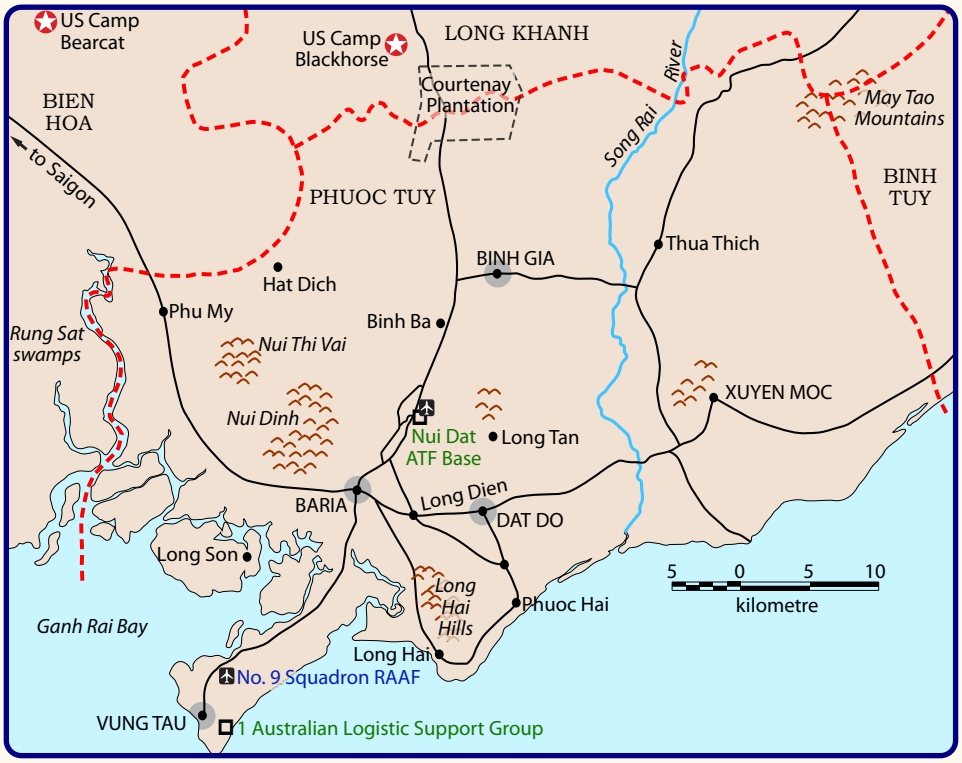
Background

From mid-1962 to late-1965, the Australian military presence in Vietnam mainly involved the Australian Army Training Team (AATTV), their primary role being instructional support for the Vietnamese military. In mid-1965, 1st Battalion Royal Australian Regiment was deployed to Bien Hoa Province Vietnam (east of Saigon) as part of 173rd US Army Airborne Brigade and air support for 1RAR was provided by US forces.



III Corps Area of Operations, South Vietnam

In mid-1966, 1 Australian Task Force was formed at Nui Dat in Phuoc Tuy Province comprising 2 infantry battalions, artillery, armour, engineers, signals, SAS and other support elements. No. 9 Squadron RAAF equipped with 8 UH-1B Iroquois helicopters formed part of 1ATF and was based at Vung Tau airfield 25 kilometres southwest of Nui Dat. 9SQN was assigned general utility helicopter support roles and the Bravo model Iroquois were fitted with 2 x M60 7.62 mm machine guns mounted externally at rear of the aircraft cabin. In late 1967/early 1968, the Task Force was expanded to embrace a third infantry battalion, a Centurion tank squadron and 9SQN began re-equipping with 16 larger UH-1H Iroquois helicopters.



Phuoc Tuy Province – 1ATF Tactical Area of Responsibility

9SQN Bravo model Iroquois
(Image: Robbie Gee)

US Army Gunship Support

Prior to April 1969, helicopter gunship support for 1ATF was provided by the US Army being generally quite good and 9SQN worked in harmony with American gunship crews; however, availability became a cause for concern. The US Army tasking philosophy aimed at sharing activities among many of their units in the III Corps area of operations and gunships often ferried from bases to scenes of operations virtually on opposite sides of the country. Transit flying in hours of darkness was generally avoided by gunship units and a Light Fire Team (US Army parlance for a flight of 2 gunships) might spend up to 4 or 5 hours of

available daylight travelling to and from Nui Dat, thus limiting availability for operations. There were several US Army gunship equipped units within about 45 minutes flight time but these elements were quite often operating at distant locations when very urgent gunship support was required.

The Spawning of a Concept

During 1967, need was seen by 1ATF and 9SQN for an integral gunship capability and representations were made to Department of Air in Canberra. As an interim measure, a twin M60 door-gun system was developed by Flight Lieutenant Bob Thompson as Air Weapons Officer and Sergeant Ernie Moore the NCO in charge of Armaments Section. This appreciably boosted door-gun firepower but fitment was limited to only 1 or 2 aircraft due to shortage of weapons.

9SQN Twin Door Gun System
(Image: Australian War Memorial)

Early in 1968, Squadron Leader Jim Cox then a 9SQN Flight Commander, Bob Thompson and Ernie Moore borrowed some obsolescent US Army gunship equipments for evaluation purposes. This XM16 weapons system comprised 4 forward firing M60 machine guns and 2 x 7 tube 2.75 inch (70 mm) folding fin aerial rocket launchers mounted either side of the aircraft on pylons adjacent to the crewman and gunner stations. This weaponry was experimentally fitted to a 9SQN Bravo model Iroquois A2-1025 dubbed 'Ned Kelly' and I flew with Jim Cox test firing the system on an enemy target on 9 March 1968, my second day in theatre. Use of this obsolescent weapons system for 9SQN requirements was not a feasible proposition so this Bravo model fit was dismantled soon after and the weaponry returned to American sources. Jim and Bob had reached end of tour with Ernie soon to follow them home.

9SQN Bravo Model A2-1025 'Ned Kelly' with SGT Ernie Moore, FLTLT Bob Thompson, SQNLDR Jim Cox, LAC Ted Maxwell
(Image: 9SQN gunship project)

US Army gunship resources then mainly comprised UH-1C model Iroquois and the newly introduced AH-1G Hueycobra. Charlie model Hueys were mostly fitted with the XM21 weapons system utilizing 2 x 7.62 mm miniguns mounted with 2 x 7 round 70 mm rocket launchers on rear fuselage station pylons. This system was adaptable to 9SQN UH-1B aircraft but this model Iroquois was too payload limited to be an effective gunship and Bravo models were being phased out of RAAF Vietnam operations as 9SQN began re-equipping with the larger and more capable UH-1H model Huey.

US Army Charlie Model Gunship with XM21 weapon system

US Army AH-1G Hueycobra
(Image: Peter Howe)

US Army Hotel model Iroquois
(Image: US Army)

2 UH-1D model Iroquois had been acquired as replacements for Bravo model aircraft lost in country. The Deltas had the larger Hotel model fuselage but the lesser powered Bravo model engine; however, these aircraft were also being shipped back to Australia for eventual upgrading to Hotel model status when higher-powered engines became available. The Hotel model Iroquois was not then in use as a gunship by any military force and development of a new operating concept for this model aircraft was envisaged so a project team was created headed by myself and I was assigned Flight Sergeant Graham ('Blue') Downer, Electrical Fitter and Sergeant Phil Hodge, Armament Fitter as technical members of the team.

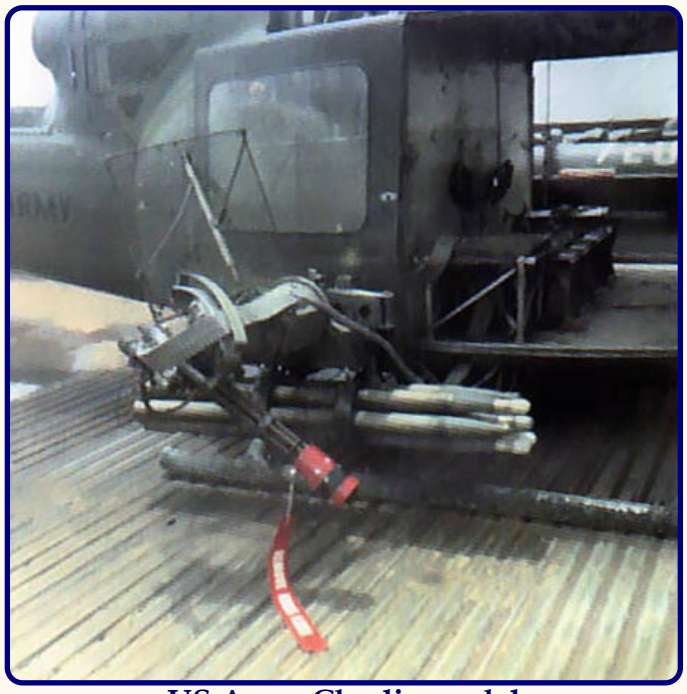
Weapons System Acquisition

Our project did not yet have formal RAAF Australia approval so we had to somehow acquire sufficient Charlie model armaments to begin experimental design work on our Hotel model aircraft. The project team was given tacit in-country blessing to acquire these resources by appropriate means and bartering was the obvious recourse in an environment where black market dealing was rife. Products of Australian origin much sought after by US servicemen were slouch hats and beer. Our Equipment Officer somehow managed to keep us well supplied with slouch hats and the Commanding Officer authorized purchase of cartons of beer utilizing squadron social club funds. This latter measure caused some heartburn initially but dissent diminished as the project began evolving. When the pace of operational activity permitted - perhaps every 2 or 3 weeks - we would load a Huey with beer, tool boxes, slouch hats and eager squadron hands to visit numerous US Army helicopter bases and aircraft graveyards soon acquiring sufficient weaponry and other components to begin experimental design work on our conceptual Hotel model gunship.

9SQN Hotel model Iroquois loaded for a barter mission
(Image: Nev Pratt)

The Design Process

Our initial look at the Bravo model 'Ned Kelly' fit convinced us that US designed XM16 and XM21systems were akin to something out of a Jules Verne novel and too complicated in design. The Charlie model concept required one pilot to primarily fly the aircraft but he could also fire rockets and the flexible miniguns when they were fixed forward. The other pilot/gunner in the left hand pilot seat operated a complex minigun aiming system which permitted considerable freedom in arcs of fire but this system was electro-hydraulic and beset with potential technical problems.



US Army Charlie model XM21 flexible miniguns

US Army UH-1 flexible minigun sight – left side

Utilizing Hotel model A2-380 for static trials, we mounted the basic XM21 weapons systems components on rear fuselage hard points near the crewman/gunner stations similar to the Charlie model configuration. From both operational and training perspectives it was preferable that either pilot should be able to fully control all weapons modes so we decided that the flexing capability of the miniguns could be removed and the system converted to a fully dual pilot operated fixed forward firing arrangement. This allowed us to eliminate the hydraulics, simplify electrics and discard the complicated pilot/gunner sighting system. A weight bonus was thus achieved but some new design problems were consequently created.

9SQN Hotel model A2-380 static trials – XM21 system on rear stores station with 19 tube rocket launcher
(Image: 9SQN gunship project)

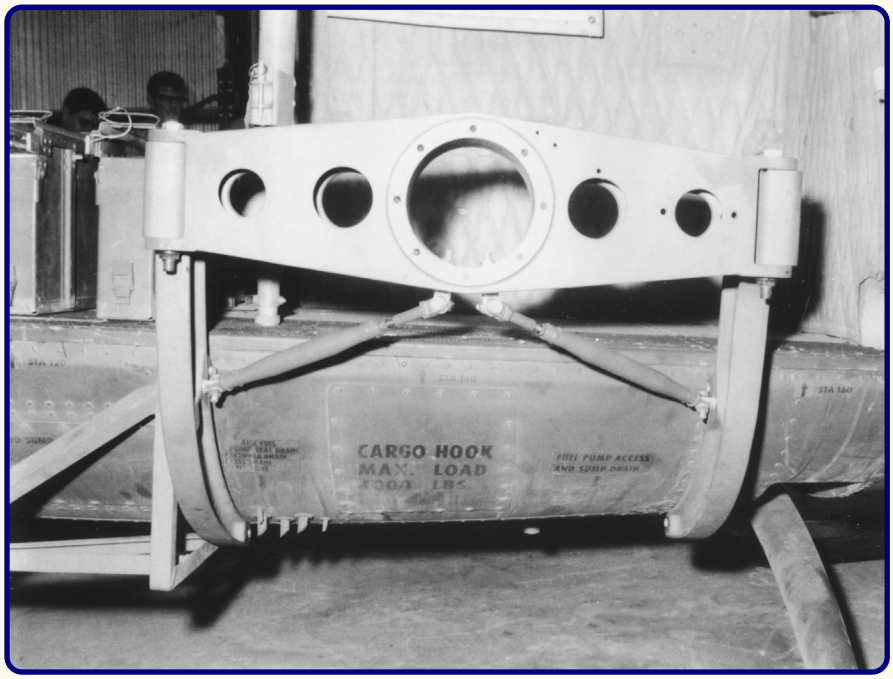
There was no gunsight mounting available in the US Army inventory to allow fitment of a reflector gunsight to both pilot stations so we simply re-engineered the standard swing down mount to adapt it to the left pilot station. With fixed forward firing weaponry and twin reflector gunsights we were able to adopt the standard Air Force process of constructing a 'reduced range screen' for harmonization of the weapons system.

US Army stowable reflector gunsight – right side
(Image: 9SQN gunship project)

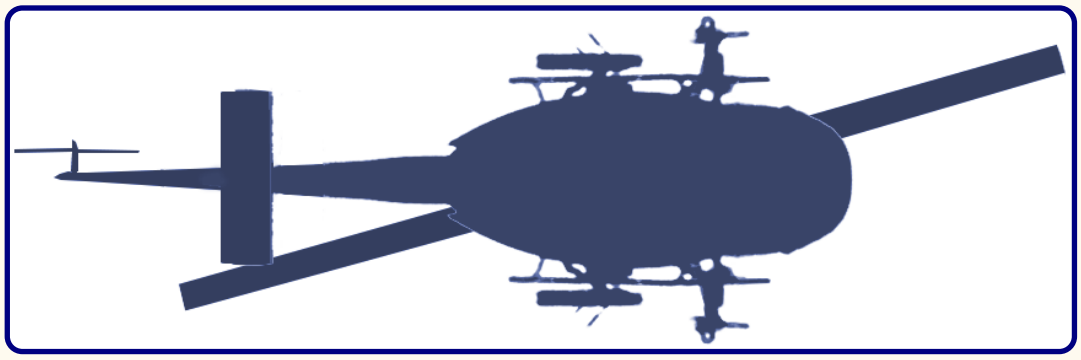
Bushranger gunship interior with both pilot gunsights stowed
(Image: Terry Pinkerton)

In May 1968, we installed some very temporary electrical circuitry on A2-380 for limited flight testing to assess aircraft handling and stability. Handling was fine but longitudinal stability not good for a weapons platform and other problems emerged. When the rear-mounted miniguns were fired, muzzle blast shockwave effects on pilots' ears were very severe. Additionally, the outboard mounting of the miniguns on the rear pylons unacceptably restricted the crewman/gunner fields of fire for their twin M60 machine guns. We decided this configuration was not viable for a Hotel model Huey.

This model Iroquois had rear and forward hard points and we discovered that a forward pylon mounting assembly was available for external equipment fits. We requisitioned this gear and determined that it was possible to mount the miniguns forward adjacent to pilot seats leaving the rocket launchers mounted rearwards close to the fuselage.



Hotel model rear external stores mount;
forward external stores mount similar
(Image: 9SQN gunship project)



Prototype Bushranger plan view (not to scale)
(Image: Kerry Cook)

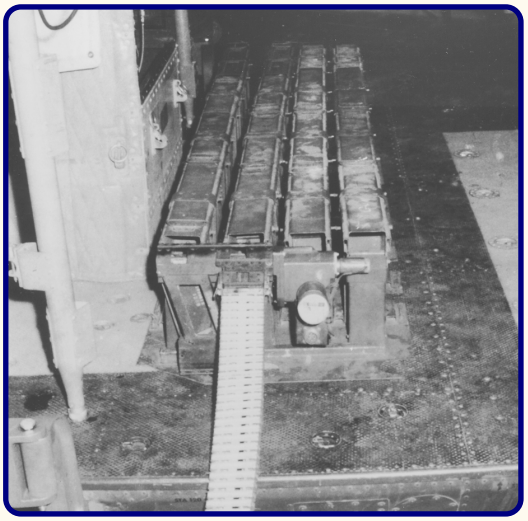
From July 1968, design work began in the hangar on A2-773 as the prototype aircraft but became stalled by inability to acquire suitable electrical adaptor plugs for rewiring of the electrics associated with the reconfigured weapons system. It took some frustrating weeks of research before we eventually found a USA source for suitable plugs and when these were acquired we were able to install the necessary circuitry in our prototype.

Within a few months, we had managed to barter enough gear to fully equip 3 aircraft and flight testing began on A2-773 in September 1968 with the rearrangement of weaponry improving longitudinal stability, eliminating the muzzle blast problem and allowing broader door-gun fields of fire. A resultant problem of this reconfiguration was weapons system harmonization. Could we sufficiently elevate the rear mounted rocket launchers to harmonize with the gunsights for desired range rocket firing and still have safe clearance of extending rocket fins beneath the forward mounted minigun pylons?

Our aircraft metalworkers manufactured some brackets enabling transverse strings to be stretched beneath the minigun pylons. We then coated rocket fins with coloured crayon and determined degrees of fin extension through strikes on the strings when rockets were fired. There was very safe clearance for harmonization needs and we were chuffed that our conceptual Hotel model weapons configuration had proved feasible. 'Blue' Downer and Phil Hodge were then able to finalize all necessary technical drawings for us to initiate the official RAAF approval process for our design concept.

There were very significant shortcomings with the standard Charlie model minigun ammunition stowage. Capacity was 7,200 rounds stowed in 12 interconnected 600 round bins for standard door-gun mountings and these small bins were clipped to a load spreader platform bolted to the cabin floor. The system was very slow to rearm and prone to ammunition jamming from misaligned linked ammunition loaded directly from 1,500 round packaging containers. Redesign was intended but pressure to acquire Australian Government sanction for the gunship role forced some interim compromise.

Changed XM21 system configuration showing rocket launch clearance below front pylon
(Image: RAAF)



Standard XM21 system 7.62 mm minigun ammunition stowage – capacity 7200 rounds
(Image: 9SQN gunship project)

Our aircraft metalworkers extended the spreader platform and we added 4 extra bins to provide stowage for 9,600 rounds of ammunition for the miniguns which were the primary close air support weapons.

Extended XM21 system minigun ammunition stowage – capacity 9600 rounds
(Image: Norm Goodall)

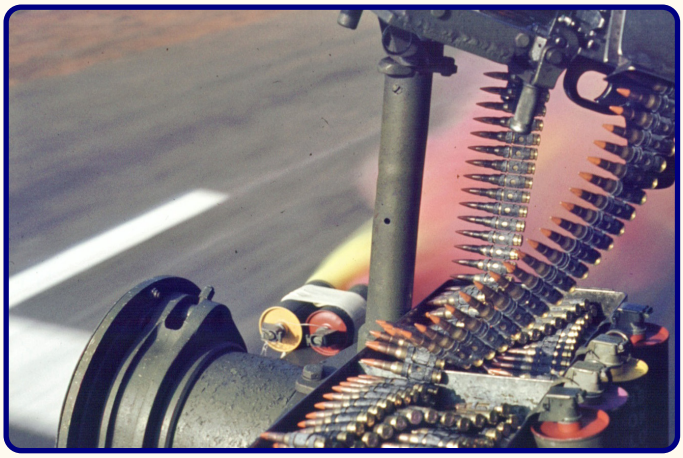
The standard Charlie model minigun control circuitry programmed each gun to fire 3 second bursts at 6,000 rounds per minute but we reduced this rate of fire to 4,800 rounds per minute with each minigun delivering 80 rounds per second or 480 rounds from 2 miniguns in a 3 second burst. Our 9,600 rounds of ammunition allowed for 20 x 3 second bursts from both miniguns and either gun could be selected to conserve ammunition.

While developing the gunship weapons configuration, we also redesigned the interim twin door-gun system which had 2 rotating ammunition bins and was usually fitted to utility aircraft used for SAS patrol recovery and people sniffer missions. We had been encountering frequent door-gun stoppages due to ammunition chute flexing plus cartridge and link blowback in the airstream necessitating much trialling of fabricated ammunition feeds and wind deflectors but we eventually got it right through the ingenuity of our aircraft metalworkers enabling ammunition chutes to be discarded.

Very simple open ammunition bins were manufactured for the Hotel model gunship configuration from metal packaging containers for linked 7.62 mm minigun ammunition providing 1,500 rounds per door-gun station and these bins were simply secured to the rear pylon mounting with a very strong tie-down strap for quick and easy rearming. These door-gun bins were loaded with 100 percent tracer ammunition to enable quick aim correction and for psychological effect.

Starboard twin door-gun ammunition feeds
(Image: Terry Pinkerton)

Port twin door-gun airstream deflectors
(Image: Roger Buck)



Twin door-gun ammunition bin – capacity 1500 rounds, all tracer
(Image: Peter Howe)

When the final design concept had been established, we had to ensure that the weight and balance of the aircraft would be within the prescribed limits otherwise the configuration would not have been approved by Air Force technical authorities so the fully equipped aircraft was carefully weighed in the hangar with all peripheral equipments included. After allowing for full fuel and 800 pounds for 4 aircrew, the all up operating weight was about 50 pounds below the 9,500 pound maximum operating all up weight for the aircraft which gave no margin for carriage of any observer passengers unless the fuel load was reduced. The weapons configuration moved the aircraft centre of gravity forward conservatively within the allowable limit to improve weapons platform characteristics and the aircraft could hover with the landing skids about level.

Bushranger operational configuration

The Urgency

There was a sense of urgency surrounding the gunship development project. The primary role of 9SQN was direct support of 1ATF which embraced support for all fighting and non-combat arms of the Task Force. The Australian Special Air Service Regiment including a New Zealand component played a very active role in Vietnam and about 1130 of their 1305 patrols were inserted and/or extracted by 9SQN Iroquois.

Special Air Service Regiment Unit Crest
(Image: SASR)

The normal SAS role was covert reconnaissance but from about mid-1967 onwards at American insistence, the SAS squadron in theatre became more involved in ambush activities frequently inflicting casualties upon the opposition. Inevitably, it became more difficult for SAS patrols to break contact with the enemy resulting in increasing contested extractions and it was only a matter of time until a patrol was overwhelmed before extraction could be effected if gunship support was not immediately available.

Majority of contested SAS extractions were in jungle where the patrol had to be recovered by rescue hoist through canopy up to 150 feet high. The enemy was at times within cricket pitch proximity of the patrol and the hoisting process took 20 or more minutes on occasions with both SAS and 9SQN exhausting ammunition.

2 man SAS hoist extraction training
(Image: Peter Robinson)

Hoist extraction of 2 SAS Patrol members
(Image: Peter Robinson)

Jungle hoist extraction of SAS patrol
(Image: Brian Senn, RNZAF)

Some may ask 'Why didn't the opposition manage to shoot us down?' and a somewhat humorous tale might illustrate their difficulty. One fine day, I was captain of Albatross 04B for a SAS patrol insertion in the eastern part of our area of operations (see map on page 26). We were walking out to the aircraft following the pre-mission briefing when our crewman who had only recently arrived in country mentioned: 'My first time out on one of these jobs Sir; anything special that I need to know?' I responded: 'If we encounter opposition Jan, try to stay calm and tell me what is happening and please do not shout on the intercom'.

SAS patrols before emplaning
(Images: Peter Howe and Peter Robinson)

So, off we went at about 100 feet above the tree tops accompanied by supporting US Army gunships with our mission leader directing progress from altitude about 2 miles astern. Bright sunlight on the raw beauty of the jungle had a soporific effect and we eventually made a straight in normal approach toward the tree line of a large clearing perhaps 100 metres across. We were almost stationary and touching down when my peripheral vision detected movement and smoke puffs about abeam on our right. 4 enemy dressed in black had popped up from behind fallen timber in the middle of the clearing and were engaging us from about 50 metres.

Several things then happened within 3 or 4 seconds. There was a shout on the intercom, the starboard door-gun began firing and I called 'Enemy on the pad right 3 o'clock' on the radio. The SAS guys all dived to the right hand side of the cabin and began engaging the opposition with their considerable firepower, ordnance from our supporting US Army gunships began impacting alongside us in the centre of the clearing and the Huey wanted to roll over with most of the weight now on one side. We somehow managed to stay upright and got airborne again with the SAS patrol still on board while our supporting gunships did their bit and after we had departed the scene of action, a somewhat apologetic voice said: 'Sorry I shouted on the intercom and didn't tell you what was happening Sir but I thought it best to start firing'. 'You did well Jan; you did well'.

The enemy collectively fired up to 100 rounds from 4 automatic weapons at a virtually stationary Iroquois side on at very close range yet amazingly, there were no holes in our SAS friends, aircrew or the aircraft as we discovered after landing. But the opposition were not so lucky; at least 3 lay prone and motionless as we departed the clearing. Good teamwork got us out of a perilous situation but the event demonstrated that it takes a cool head to hit an aircraft, particularly when the occupants are retaliating and adrenalin is pumping.

Personnel involved in the action on 01 Jun 68

SAS Patrol 34	2LT Dave Procopis CPL Henry Leerentveld PTE 'Bart' Mavrick PTE Barry Kelly LCPL Garry Lobb LCPL Terry O'Farrell	Albatross 03 A2-379	PLTOFF Rod Adam W1 Vasquez (US Army) LAC Bill McCreadie AC Barry Fletcher
Albatross 01 A2-380	FLTLT Bob Kendell SUBLT Ken Vote (RAN) LAC Lindsay Fankhauser AC Terry Jackson	Albatross 04B A2-377	FLTLT Brian Dirou SUBLT Peter Ey (RAN) LAC Jan Kiewiet Gunner unidentified

SAS patrol before take off
(Image: Peter Robinson)

SAS patrol before take off
(Image: Bob Upham)

SAS trooper enroute for insertion
(Image: Peter Robinson)

SAS trooper after extraction
(Image: Peter Robinson)

SAS patrol after extraction
(Image: Bill Robb)

Suspended Extraction

The enemy had become tuned to SAS insertion practices and contested patrol extractions were becoming more common and hazardous so we had to improve our prospects for mutual survival. During 1967, we had developed rappelling procedures in Australia with the SAS squadron now in country and had since refined a floor mounted roping attachment/release rig in Vietnam for fitment to a Hotel model aircraft so we could develop procedures for suspended extraction with our SAS friends.

The technique involved the recovery aircraft coming to a hover above the patrol in contact and dropping 150 foot long ropes for each patrol member which were attached to the rappelling rig. The SAS would fashion individual rope seats from their personal equipment and attach to a dropped rope. All would link arms and the aircraft would then slowly lift them vertically through the jungle canopy. This procedure greatly reduced hover time during extraction thus conserving ammunition for the patrol and aircraft involved but had some quite risky aspects.

The patrol suspended 150 feet beneath the aircraft became a pendulous extension of the aircraft weight. Great care was needed in flying the recovery aircraft to prevent a pendulum motion developing which could temporarily move the overall aircraft centre of gravity beyond flight control limits. It was nerve tingling stuff particularly if engaged with the enemy. Once the patrol was lifted clear of the contact area, a clearing in near proximity was sought where the gunships would orbit while the patrol was 'gently' deposited, ropes released and relieved troopers embarked on the recovery aircraft for return to Nui Dat. The ferry with

patrol suspended was sometimes much further than desirable if over continuous jungle and a selected clearing seldom secure from enemy intrusion, but these risks were preferable to the probability of patrol and aircraft loss during continued long duration rescue hoist recoveries in contested situations.

SAS Swiss Seat

Rope extraction of SAS patrol

The development of these procedures had a comical aspect. I had been involved with redesign of the rappelling rig and was tasked to begin training for suspended extraction with our intrepid friends. Somewhat unenthusiastic, we landed at the SAS helo pad NADZAB - titled after the World War 2 operation in Papua New Guinea – and had a preliminary discussion that went something like:

9SQN: 'What do we use for rope?'
2SAS: 'This stuff here.'
9SQN: 'Looks a bit ordinary; you must have stolen it from a Vietnamese fisherman!'
2SAS: 'Not us Mate; but don't worry, she'll be right.'
9SQN: 'Okay; if you say so.'

Ultimately, we practiced hook-up drills and procedures while hovering in the helo pad area and when everybody was satisfied with these aspects, we began short gentle flights around the Nui Dat complex with patrol sized groups suspended 150 feet beneath the aircraft which progressed without problems for several patrols until mid-flight with one group.

Rope extraction training at Nui Dat
(Images: Bob Upham and Peter Howe)

Our crewman and gunner were both prone on the cabin floor closely monitoring the suspended patrols when one called on the intercom: 'We better get down; one bod has dropped below the others and somebody is holding his shirt collar.' We headed for mother earth as swiftly and carefully as possible to discover a strand on one rope had separated and the remaining strands had begun unravelling. That rope happened to be holding the SAS squadron commander and an alert trooper realized what was happening so grabbed him by the collar, but he was duly castigated by his mates for saving an Officer! Training for the role was suspended for a while until better quality rope was acquired from Australia.

Unfortunately, there were 2 later accidents during contested suspended extraction operations. On 27 September 1969, Private David Fisher fell from his rope soon after being lifted above jungle canopy (see map on page 26). It was thought that he may have attached his karabiner ring to an incorrect loop on his rope while under pressure during the extraction. His remains, which had been buried by Vietnamese soldiers, were discovered in 2008 and repatriated to Australia

Rope extraction of SAS patrol

Personnel involved in the action on 27 Sep 69

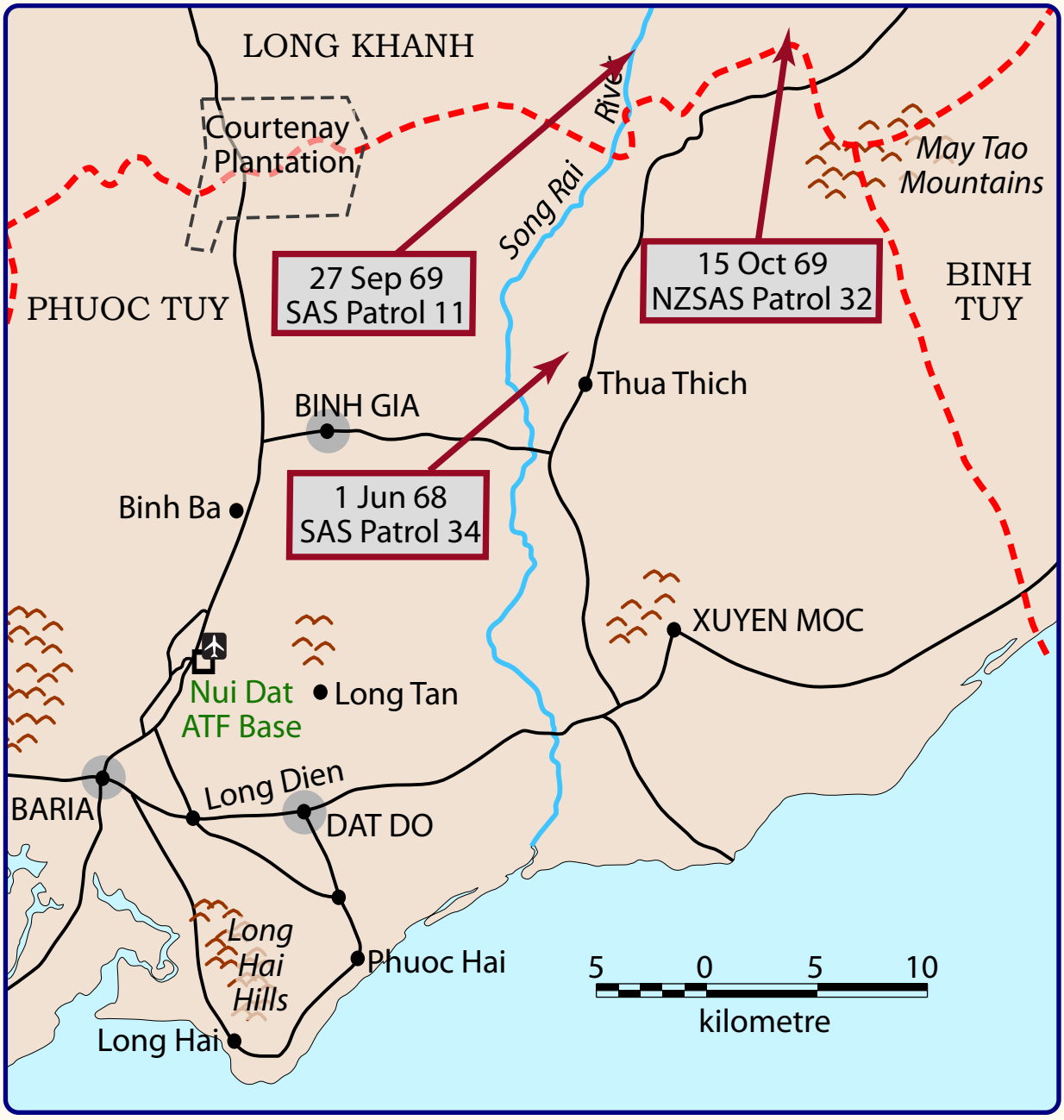
SAS Patrol 11	CPL Joe Van Droffelar PTE David Fisher (MIA) PTE Les Liddington PTE Paul Saxton PTE John Cuzens
Albatross 01 A2-378	SQNLDR Brian Nicolls FLGOFF Mike Andrews LAC Geoff Scobie AC Malcolm McIver LAC Paul Pannowitz
Albatross 02 A2-766	SQNLDR Graham Derby (RNZAF) FLTLT Doug Paterson (RNZAF) LAC Bob Burtenshaw LAC Darryl Macarty
Albatross 03 A2-767	PLTOFF Chris Beatty PLTOFF Gary Mulholland LAC Wayne Hay AC Greg Mahony
Albatross 04 A2-769	PLTOFF Tony Wheal PLTOFF Peter Bradford LAC Peter Armstrong AC Ray Price
Bushranger 71 A2-377	PLTOFF Mike Tardent FLGOFF Chris Ellis LAC David Moles AC John Reale
Bushranger 72 A2-382	SQNLDR Mike Robinson PLTOFF Tony Lea LAC Don Neil AC Peter Sutcliffe
Bushranger 73 A2-383	PLTOFF Joe Driver PLTOFF Des Long LAC Allan Lamb LAC Clem Walters

On 15 October 1969, a New Zealand SAS patrol had to be extracted by rope after abandoning their packs to run from a large enemy group (see map on page 26). After lifting the patrol from the extraction point and while approaching a clearing to deposit the patrol for rope disconnect and embarkation, an oscillation developed and the aircraft became uncontrollable. The suspended patrol was dragged about 60 metres along the ground and the Huey pranged, fortunately without serious injury to the patrol and aircrew.

Rope extraction accident A2-381 – NZSAS Patrol 32 on 15 Oct 69

Personnel involved in the action on 15 Oct 69

NZSAS Patrol 32	SGT 'Windy' McGee LCPL Jack Curtis LCPL Denny Makara LCPL Duke Pewhairangi LCPL Mike Cocker
Albatross 01 A2-382	SQNLDR Ron Crimmins SQNLDR John Pendreigh (RNZAF) LAC Ted Maxwell Gunner unidentified
Albatross 02 A2-381	WGCDR Roy Hibben FLTLT Max Woolf SGT Terry Pinkerton AC Terry May
Albatross 03 A2- 766	FLTLT Lloyd Knight GPCAPT Ron McKimm AC Tony Reynolds-Huntley AC Malcolm McIver
Bushranger 71 A2-383	FLTLT John Hazelwood PLTOFF Gary Mulholland SGT Felix Parker LAC Darryl Macarty
Bushranger 72 A2-377	FLTLT Rex Budd PLTOFF Des Long LAC Geoff Smith LAC Clem Walters



Action events locations

Another incident occurred on 2 November 1969 after rope extraction while approaching to a hover for landing of the patrol. A patrol member swivelled inverted while still attached to his rope but the aircraft captain was fortunately able to ground the patrol expeditiously to recover the situation despite controllability difficulties. 9SQN then declined further rope extractions and reverted to time-consuming rescue hoist recovery of SAS patrols. I had left Vietnam again about mid-year so was not privy to the reasoning but felt that the risks involved in rope extraction were preferable to long duration winching considering enemy awareness of SAS/9SQN operating practices. Had the rope technique not been used for some earlier extractions, patrols and aircraft would most likely have been lost.

Australian Government Blessing

Much had been accomplished within the squadron by end of October 1968. The unit had transformed from 8 x UH-1B/D to 16 x UH-1H aircraft complement and near doubled its personnel. Desirable modifications/improvements were made to all of the new Hotel models and other new equipments manufactured for command and control communications, psychological warfare and insecticide/herbicide spraying with new operating procedures developed and written for our rapidly broadening roles. Since 1ATF had been expanded to 3 infantry battalions plus a Centurion tank squadron around the beginning of 1968, there had been major operational involvements for the Task Force with 9SQN averaging over 1,000 hours of flying per month. We normally had 13 of 16 aircraft on line daily and the hangar literally buzzed with activity so our gunship project had to mesh with all of this effort.

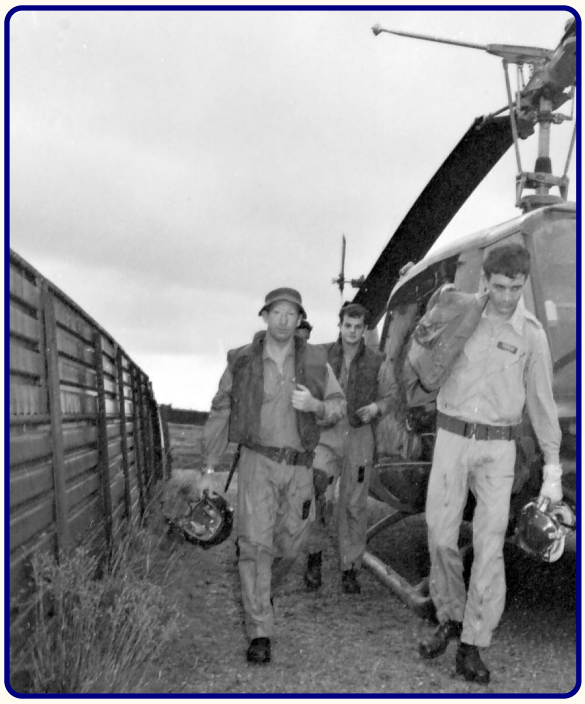
By November 1968, we were ready to exhibit our prototype gunship A2-773 for the Minister for Defence, the Hon. Malcolm Fraser, MP who was scheduled to visit Vietnam later in the month. We organized a big lobbying campaign to ensure he was appropriately pressured for Australian Government blessing wherever he visited Australian military elements so by the time he got to view our pride and joy he was convinced of the operational need. About 3 weeks after his return to Australia came the great news; the Australian Government had authorized expenditure of A$95,000 for procurement of equipments to fit 4 aircraft as gunships. ELATION and miles and miles of smiles; we were now going to be able to mix it with the opposition on better terms but there was still much preparatory work to be done.

Gearing Up

We decided to wire 6 squadron aircraft for the gunship fit to allow rotation in normal roles and for scheduled servicings. The unit engineering workload was heavy due to our high rate of operational activity so we ordered electrical components to enable opportunity completion of modifications on another 5 aircraft. We were anticipating gunship equipment deliveries in January 1969 and hoping to commence aircrew and maintenance personnel training about February/March.

There were other requirements. We decided to run a competition within the squadron for a callword for our gunships and it had to differ from 'Albatross' used by 9SQN utility aircraft, be distinctively Australian, and easily understood in radio communication. 'Bushranger' was chosen from about 20 suggestions and we decided this should be followed by 71, 72, 73, and 74 to identify individual gunships crews. The number 7 was selected because it is little used in the Australian Army system of radio callsigns so the distinctive 'Bushranger 71' was coined as our lead gunship crew callsign.

Our standard aircraft revetments at Vung Tau constructed to protect aircraft against shrapnel damage were too narrow to accommodate gunships and some reconstruction was necessary.



9SQN Vung Tau airfield revetment

The gunship rearming area at Nui Dat was also sub-standard for RAAF weapons safety requirements so 9SQN offered to assume control of the facility and the Army obliged with engineering resources for upgrade.

Kangaroo Pad Nui Dat rearming facility
(Image: John Clarkson)

The next auspicious event to be conducted with some ceremony was delivery of our new gunship equipments. A USAF Caribou taxied to our hangar and disgorged a high rank US Army Officer and 4 sets of Charlie model gunship equipments which were mostly in very poor condition. It seemed like payback time and the Americans were squaring up for our bartering! I offered some derogatory comments displeasing Senior Officers present when a Corporal standing nearby quietly whispered: 'Don't let it bug you Sir; we'll just slowly feed it back into their system and exchange it for new gear', which is what happened to some extent.

High level representations were duly made in Saigon and we eventually got some better weaponry; however, this matter highlighted an interesting aspect of our involvement. Australia and New Zealand paid their way in Vietnam for all military needs but we were accorded low priority in the US Army supply system. Their gunships naturally had precedence for supply of XM21 weapons system components and there was high demand on miniguns and spares from Hueycobra and Charlie model operators. Spares supply was to cause us later difficulty.

We now had 7 full sets of XM21 gunship weapons system equipments (3 'acquired' and 4 purchased). During January/February 1969, our Armaments Section at Vung Tau and the rearming facility at Nui Dat were upgraded. These facilities had to be of required standards before we could commence training and we were soon to be visited by technical staff from Australia who would formally bless some of our developments.

The gunship project had been conceived and condoned in an operational theatre and the customary RAAF process of various levels of technical approval had been conveniently short-circuited during project development. The wondrous aspect was the faith placed in the project team as we were able to methodically accomplish the task virtually without any intervention from superiors or higher agencies. The Australian Government had since blessed our efforts by allocating funding so we now had to tidy up formalities. We had been cautious and thorough in all aspects of project development and welcomed the visits of various authorities to approve our work.

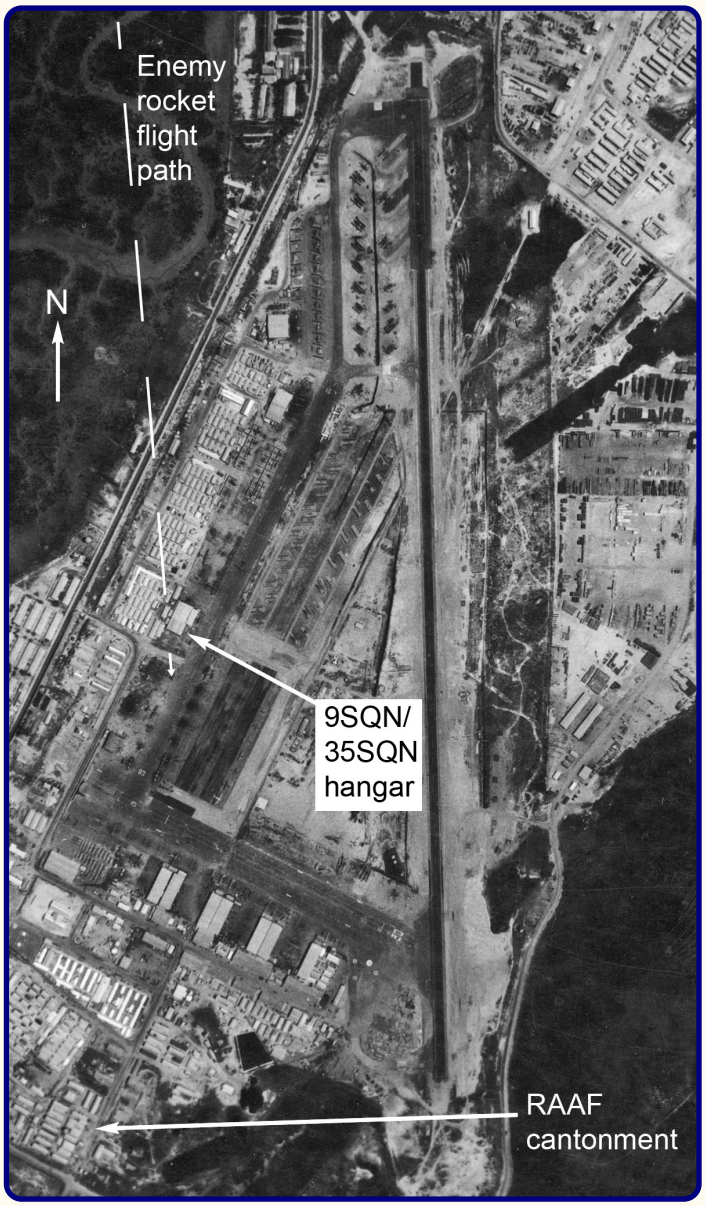
Work-up Training

I returned to Australia mid-February 1969 for 4 weeks leave as 11 months of intensive operational activity had taken toll and some rest was needed before commencing gunship workup training. Early March 1969, 2 Squadron Special Air Service Regiment with whom we had developed new operating techniques headed for home having accounted for 151 of the opposition during their tour and we quietly felt that we had played a significant supportive role in their military feat. They jokingly changed their motto *'Who Dares Wins'* to *'Who Cares Who Wins'* and stencilled everything in sight before departing the scene.

On my return to Vietnam in mid-March, we began aircrew and technical training using A2-773 until other modified aircraft became available early April. Some pilots including myself had previous air to ground weapons delivery experience on fighter aircraft and this knowledge aided us in aircrew training and development of gunship standard operating procedures. We determined that about 4 weeks of intensive training would suffice before operational introduction of the Bushrangers.

Long Son Island – origin of VC 122 mm rocket attacks on Vung Tau airfield
(Image: Peter Howe)

Our training program had some interesting aspects. We would head for Nui Dat and spend part of a day operating in areas where HQ 1ATF believed that expenditure of ordnance might have some positive effects. During 1968, enemy rocket attacks on Vung Tau airfield from nearby Long Son Island had become more frequent with damage to fuel installations and on 22 April that year, a 122 mm rocket passed over the 9SQN/35SQN hangar (where our night casevac standby crew was sleeping) before impacting beneath the wing of a USAF Caribou parked about 70 metres away and igniting leaking fuel that destroyed the aircraft.



Vung Tau airfield 1967-68
(Image: Mac Weller)

USAF Caribou destroyed in 1 of 2 rocket attacks on 22 Apr 68; No. 9 Squadron hangar 70 metres from left tailplane
(Image: © Charles Harris, 2005)

Occasional USAF 'Spooky' (AC47 Dakota gunship) work on the island had not deterred the enemy and after more rocket attacks in February and March 1969, the resident US Special Forces Advisor requested 1ATF assistance to counter the threat to Vung Tau airfield.

USAF AC47 Dakota – 'Spooky' Mk 1
(Image: USAF)

At end of gunship training elsewhere in the province, we were authorized to work on Long Son Island so would uplift the resident US Advisor and then attack jungle targets at his direction that varied daily according to local intelligence. Some enemy were killed and some wounded during this 'training' and other local Viet Cong began surrendering due to psychological trauma caused by Bushranger activities. The threat to Vung Tau airfield was neutralized and our ecstatic Green Beret friend promised to buy us all dinner when he could get some leave.

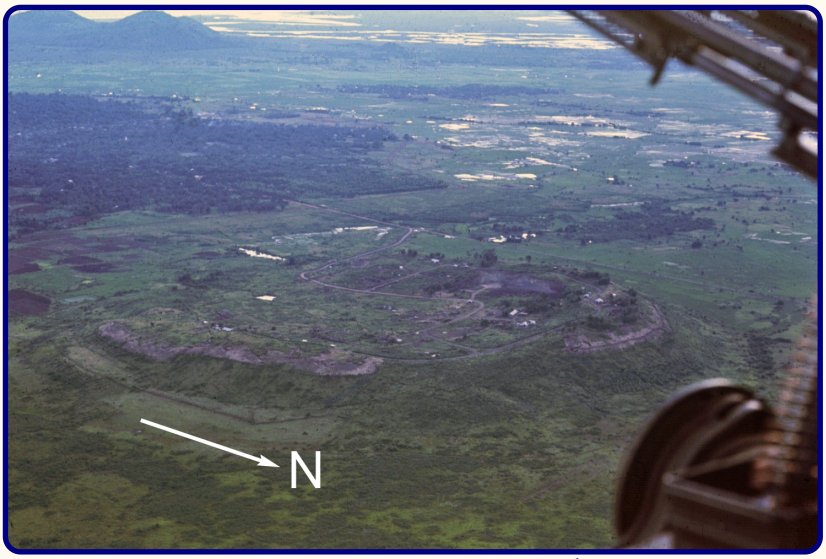
One final formality was necessary. About end of March 1969, Squadron Leader Len Evans, an Armament Officer based at RAAF Butterworth and formerly a staff pilot at Aircraft Research & Development Unit, arrived at Vung Tau for airworthiness approval of our gunship. Len and I flew together to complete a US Navy flight test schedule for certification of the aircraft.

'Operational'

By mid-April, we felt adequately prepared to provide 1ATF with reliable integral gunship support; so, on 21 April 1969, about 14 months after the gunship project was initiated, the Bushrangers were declared operational. The next 6 weeks were action packed embracing contact with the opposition on most days. Squadron morale during the previous 12 months was high but now soared as we had become a very effective fighting unit with a broad range of roles.

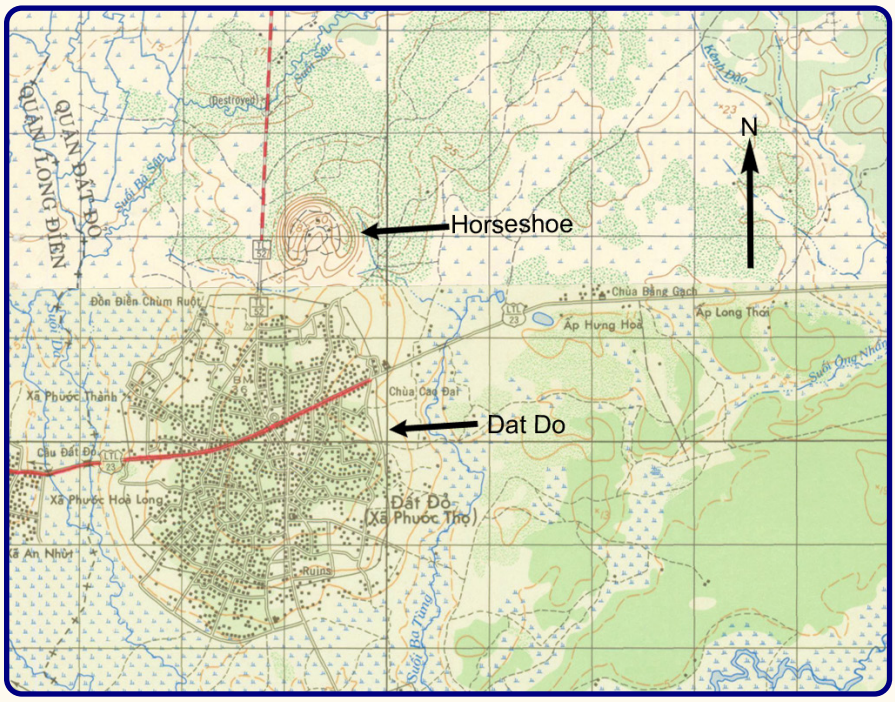
An action on 15 May 1969 warrants mention for its sadness and this condensed account from then Pilot Officer Bob Treloar (later Air Vice Marshal and Commander Australian Theatre) relates (see map on page 38):

'It was my first sortie in country and ... I seem to recall that it was late morning. We were en route from Vung Tau to Nui Dat when a crewmember spotted tracer rising from Dat Do. At this stage I was still trying to work out which way was up on the map while Sambo (the aircraft captain) flicked to the Vietnamese military frequency to investigate the situation. An urgent request for help was made by the US Advisor and we promptly responded landing in what I took to be the village square. It was a confused situation and I recall the advisor briefing us that VC had infiltrated the village and attacked his forces. He requested that we evacuate wounded from what was quite an intense fire fight. During this conversation a VC armed with an AK47 rounded a building some 50 metres away and fired in our general direction. The advisor turned and dispatched him. We left shortly after that with half a dozen or so pax … a mixture of dead and wounded … it was a confusion of bodies, blood and bandages in the back of the chopper. … We returned to Vung Tau and washed out the aircraft.'



In foreground, 'The Horseshoe', a static 1ATF fire support patrol base (FSPB) with part of Dat Do township visible
(Image: Peter Howe)

About 2 hours later, 3 x 9SQN Bushrangers from nearby Nui Dat were tasked to assist and our US Special Forces Advisor friend from the Long Son Island 'training' was with the Vietnamese forces opposing the enemy as identified by his personal radio callsign *'Multi Affair 18'*. Dat Do urban area was roughly 2 kilometres in diameter and some of the enemy were located beneath an elevated school building near the centre of town. We began engaging the opposition at direction of our Green Beret friend making very shallow minigun firing passes from about 200 feet above ground level trying to get the enemy beneath the building but endeavouring not to destroy the school. At some stage I heard the chatter of automatic weapon fire and looked down to see a guy in black at the backdoor of a house emptying a magazine of his AK47 weapon in our direction.



1:50.000 map showing Dat Do and Horseshoe

We came under fire from a heavy calibre crew served anti-aircraft weapon located between 2 small houses on the eastern edge of the town about 1,000 metres from the school. My co-pilot was a decorated Korean War veteran and we both sighted the tripod mounted weapon that was manned by 3 enemy wearing black uniforms and black hats.

12.7 mm anti-aircraft gun

VC Main Force soldier captured by 7RAR in 1970
(Image: Andy Mattay)

It was a very tempting target but our rules of engagement required prior clearance from the ground to ensure no harm to friendly forces and non-combatants. While seeking clearance to engage from our US Advisor friend, his voice lapsed although we could still hear his radio being keyed momentarily and when unable to re-establish contact after maybe 10 minutes of trying, we reluctantly broke off the engagement.

Some time later, 1ATF elements entered the town and apparently found about 30 dead and wounded enemy near our target area according to feedback via our Army Ground Liaison Officer from some Australian armoured personnel carrier crews (the HQ 1ATF record of events differs). The Australian troops reportedly also found our Green Beret friend - he had been badly wounded then seized by the enemy who cut his throat. He was a very fine soldier and soon due to return home to the US.

Personnel involved in the action on 15 May 69

Albatross 05 A2-770	FLGOFF John Sampson PLTOFF Bob Treloar SGT Felix Parker AC Trevor Hamill
Bushranger 71 A2-383	SQNLDR Brian Dirou SQNLDR Brian Nicolls LAC Monty Jesinowski LAC Darryl Macarty

Bushranger 72 A2-773	PLTOFF Mike Tardent FLGOFF Alan Adamson LAC Greg Love AC David Moles
Bushranger 73 A2-772	FLGOFF Trevor Butler (RNZAF) PLTOFF Nick Hobson AC David Manson AC Eoin Delaney

Perhaps another tale regarding an action the following day might illustrate the very special bond that existed between the SAS and 9SQN. On 16 May 1969, the 9SQN SAS extraction team was launched to recover a patrol in contact with a large enemy force near the Courtenay rubber plantation on the Phuoc Tuy Province northern border (see map on page 38) and in grave danger of being overwhelmed. The patrol sounded quite desperate on the radio as we approached their location and Albatross 02 descended quickly toward the extraction point as 3 Bushrangers began suppressing an area within maybe 40 metres of the patrol attracting ground-fire from along a ridgeline paralleling our approach to the target area.

The recovery aircraft was nestled down among the treetops awaiting hook-up of the patrol on ropes which had been deployed from the Huey but this became protracted because the SAS were still trying to keep the enemy at bay. As I broke away from a firing pass, a patrol member shouted on the radio: 'Bring it in closer Bushrangers, they're right on top of us', with great concern evident in his voice. The gunsight pipper was dancing around in turbulence and on the next pass I fired a rocket aiming for about 20 metres from the hovering Huey but it looked certain to hit the forward rotor blade of the stationary extraction aircraft.

Extraction ropes deployed
(Image: Peter Robinson)

Gunsight view
(Image: Bob Upham)

Rocket flight time to target was below 2 seconds but time seemed paused until the missile gradually dropped beneath the rotor blade passing about 2 or 3 metres in front of the windscreen before exploding in adjacent foliage. The voice of a normally taciturn RNZAF pilot went up a couple of octaves as he shouted: 'Hey, that's getting a bit bloody close!' The situation was desperate so we pressed right in to point blank range concentrating high density minigun fire at the edge of the rotor disc (hoping any ricochets went forward) before flying around the recovery aircraft and thus over the enemy which drew the words from the SAS patrol: 'That's shit hot Bushrangers, you're right into them', with great relief in the voice.

Ground-fire intensified as the patrol was slowly lifted vertically through the canopy with patrol members still engaging the opposition. The ground-fire was somewhat mesmerizing and continued for a mile or so of travel as the large enemy force tried to extract retribution, their reaction suggesting that we had knocked them about with our suppressive strafing. We received no ground-fire damage during this torrid engagement probably because we were able to maintain continuous fire on the enemy with 3 gunships and slightly varied our

attack directions. A much relieved patrol was eventually deposited into a distant clearing and embarked for return to Nui Dat. They knew that we would do anything for them (and vice versa).

Rope extraction transit

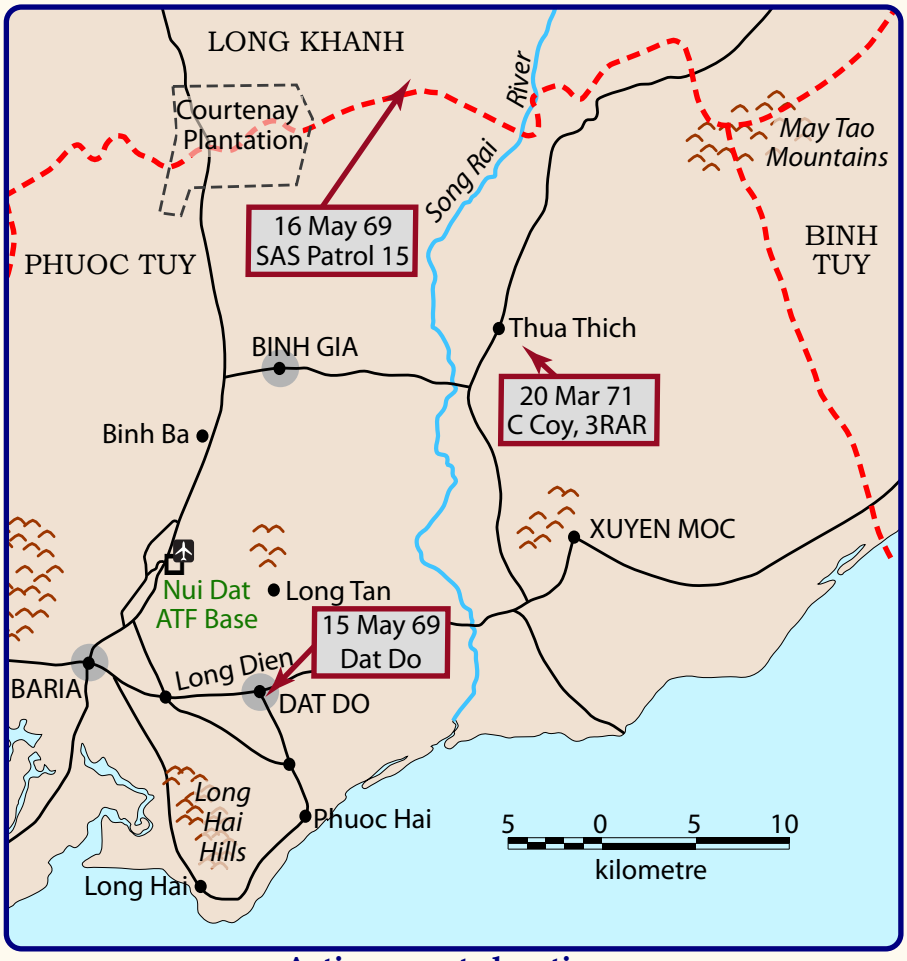
Personnel involved in the action on 16 May 69

SAS Patrol 15	SGT John Robinson PTE Nick McKelvie PTE John Dodd PTE Ray Beard
Albatross 01 A2-381	FLTLT George Oldfield (RNZAF) FLTLT Lloyd Knight AC Geoff Smith AC John Edwards
Albatross 02 A2-382	FLGOFF Trevor Butler (RNZAF) PLTOFF Tony Wheal LAC Allan Lamb LAC John Gibson
Albatross 03 A2-770	PLTOFF Les McGrath PLTOFF Gary Mulholland LAC Peter Armstrong AC Gunter Gale

Bushranger 71 A2-383	SQNLDR Brian Dirou FLGOFF Alan Adamson LAC 'Fred' Ferry AC Ray Rennie
Bushranger 72 A2-773	FLTLT Rex Budd PLTOFF Joe Driver LAC Monty Jesinowski AC Ray Martin
Bushranger 73 A2-772	PLTOFF Mike Tardent PLTOFF Tony Lea LAC Greg Love AC David Manson

In June 1969, we were gathered in the bar the evening before I headed home again and I thought I had best tell the RNZAF pilot about that rocket. He was a big fit guy so I backed up a bit before saying: 'About that rope extraction job 3 weeks ago Trevor; this is what happened'. When I described how close the rocket passed in front of his windshield, he went bug-eyed and strangled his beer can!

Considering their numerous engagements with the enemy during 30 months of operations, Bushranger casualties were minimal with 1 pilot killed in action and 1 crewman wounded although a few gunships were lightly damaged by ground-fire. The action involving loss of a pilot occurred on 20 March 1971 when a platoon of 3RAR had encountered an occupied enemy bunker system (see map on this page). Both their platoon commander and signaller had been wounded and they were low on coloured smoke for location marking. Bushranger 72 engaged the perceived enemy location while Bushranger 71 made a low pass toward the platoon to drop a bag of coloured smoke grenades. The troops were disoriented in jungle due to the intensity of the engagement and mistook the relative direction of the opposition causing Bushranger 71 to unwittingly overfly the enemy at treetop height and very low airspeed. The aircraft took about 20 hits and the co-pilot was mortally wounded in the head. This unfortunate loss was viewed by all as misfortune of war.



Action events locations

Personnel involved in the action on 20 Mar 71

Bushranger 71 A2-383	FLGOFF Dave Freedman PLTOFF Ron Betts (KIA) LAC Tony Moran LAC Barry Morgan	Bushranger 72 A2-772	FLTLT Norm Goodall FLGOFF Phil Smith LAC Bill Crouch LAC Bob Golley

Comparisons

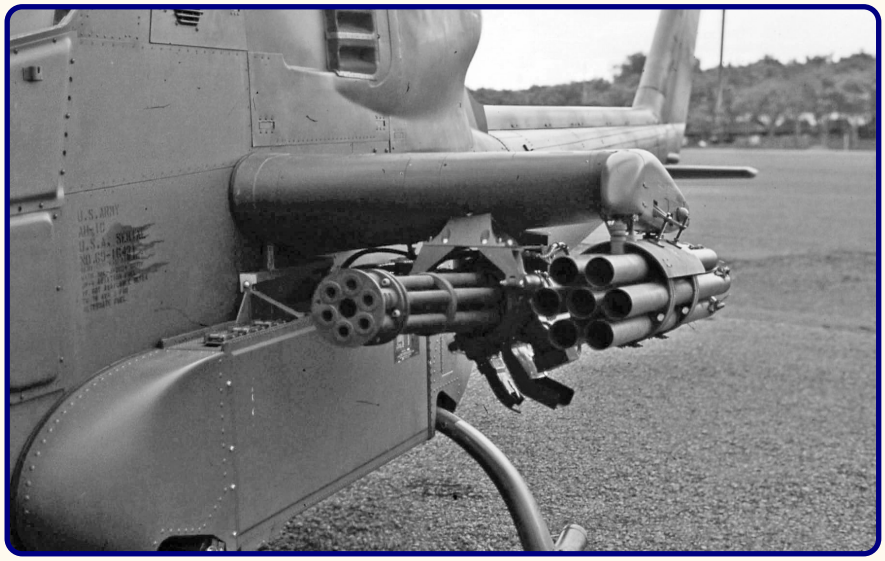
The US Army Charlie model mainly carried 7,200 rounds of ammunition for 2 miniguns and 2 x 7 tube rocket launchers. Some operating units substituted 19 tube rocket launchers in lieu of the minigun/rockets with upgraded door-gun installations and there were other hybrid combinations of weaponry.

US Army Charlie model Iroquois with hybrid weaponry

US Army Charlie model Iroquois with 40 mm grenade launcher

AH-1G Hueycobra weapons configurations varied widely. Some early versions were fitted with a single turreted minigun or an unsuccessful twin turret with dual miniguns or minigun/40 mm grenade launcher combinations. Maximum internal minigun ammunition capacity was 8,000 rounds and some versions also carried 2 podded miniguns each with 1,500 rounds and 2 x 7 tube rocket launchers. This Hueycobra configuration with 11,000 rounds of 7.62 mm was less than the Bushranger with 12,600 rounds of 7.62 mm and 14 rockets for each aircraft. Other Hueycobra weapons combinations emerged embracing a single fixed forward firing 20 mm gatling cannon or 19 tube rocket launchers necessitating substantial reduction of minigun ammunition and/or fuel load in some operating environments to remain within maximum operating weight limitations.

US Army AH-1G Hueycobra in basic configuration



US Army AH-1G Hueycobra with single fixed 20 mm gatling cannon on port side and 1500 round minigun pod on starboard side
(Image: Peter Howe)

The following extracts are from US military historical sources:

'The range and killing power of the minigun was limited and though the 70 millimetre rockets had much more reach and punch, they were inaccurate and had to generally be fired in salvos to blanket a target… While many (US Army) gunship crews liked the speed, agility and hard-to-hit slender lines of the Cobra, there was another faction that preferred the old Huey gunships since the door gunners not only provided additional eyes and ears but could lay down suppressive fire to the rear of the helicopter… The debate between the two factions went on through the war.'

Iroquois Bushranger gunships were created specifically to provide intimate close air support for infantry related activities in particular and their fixed forward firing miniguns were very effective at close range in this role, sometimes delivering accurate firepower about 10 metres from friendly forces in necessitous circumstances. The 4 man crew had all round vision from the Bushranger which was of great advantage in reconnaissance, detecting movement and sighting/hearing sources of ground-fire plus in fighter versus helicopter tactics development pursued by the RAAF in Australia after the Vietnam War.

The 70mm rockets secondary armament were an area weapon that could not be delivered in close proximity to own troops with reasonable safety and their value as so-called 'aerial rocket artillery' is much overstated in my view, despite a laser guided 70 mm rocket version now being developed for non-hardened point target applications. Cannon is a superior weapon for close air support of ground forces although contemporary attack helicopters fitted with a single cannon and carrying sizeable payloads of 70mm rockets are not comparable with the very accurate powerful ordnance capabilities of the specialized close air support A10 'Warthog' or the versatile long range and endurance AC130 Hercules 'Spooky/Spectre' gunship.

USAF A10 'Warthog' close air support aircraft
(Image: USAF)

USAF AC130 Hercules gunship
(Image: USAF)

All 25 Australian Defence Force Hotel model Iroquois with assured long term supportability could have been upgraded to as new glass cockpit Huey II capability at about overall cost of a single flawed MRH-90 or one Tiger AAH.

A gunship version with infra-red targeting system, miniguns, podded low recoil 20mm cannon pods substituted for rocket launchers and twin doorguns would be far better suited for an intimate close air support role in remote regional locations than any form of very costly AAH versions in service at Year 2007 and onwards.

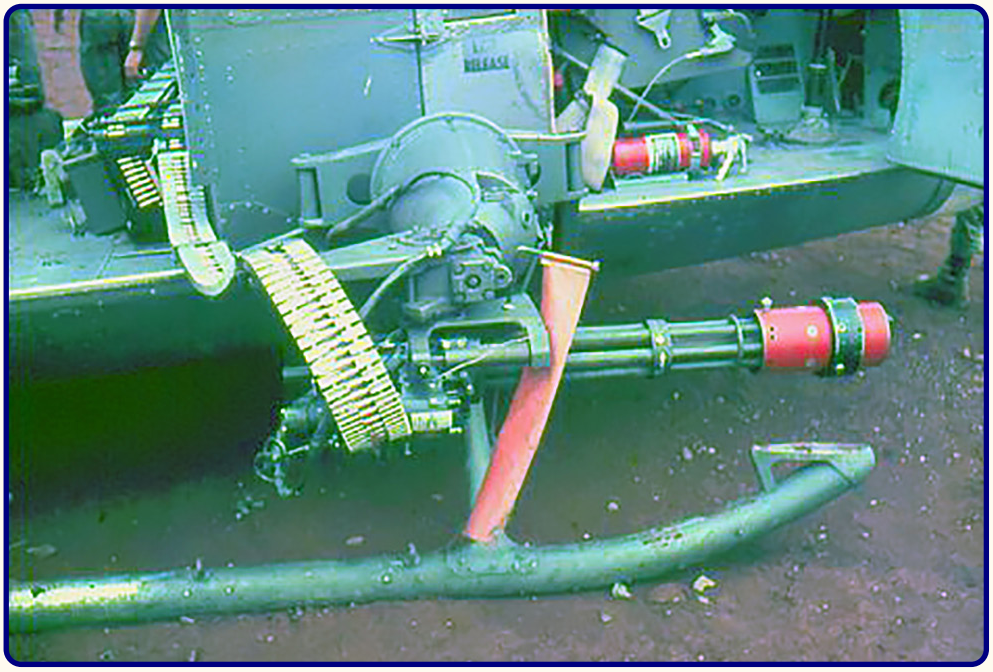
Conceptual ADF Huey II gunship –
NC621 20 mm low recoil cannon pods fitted in lieu of 70 mm rocket launchers
(Primary image: Australian Army)

Australian Defence Chiefs might soon lament that ADF Iroquois and their weaponry were not consigned to reserve storage (in lieu of inappropriate disposal) considering their proven capabilities in Australia's regional environment.

Reflections

'The Official History of the RAAF in Vietnam' account of Bushranger evolution/introduction infers some weapons safety shortcomings in training of aircrew and maintenance personnel. Miniguns are driven electrically but when loaded can also fire by manual rotation of the barrels so red-flagged safety rods were inserted between the barrels warning that the guns were armed, but this did not prevent a minigun discharge incident in the revetments at Vung Tau when an airman inadvertently moved the barrels of a weapon, fortuitously causing no harm. Muzzle bullet traps had been requisitioned but were in very short supply although eventually acquired.

Armed minigun with flagged safety rod
(Image: Roger Buck)

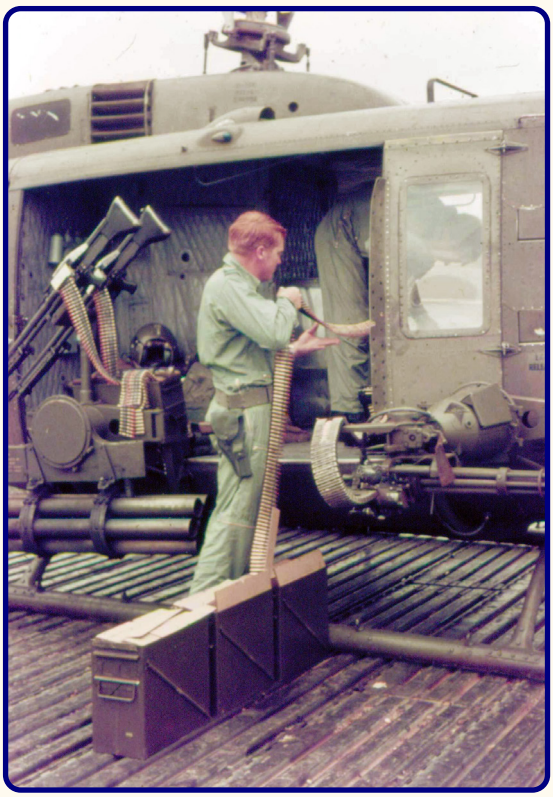


Minigun with bullet trap and flagged safety rod

Some on-ground weapons handling errors for M60 machine guns were unduly attributed to the gunship project. 9SQN had been in theatre for near 3 years before the Bushrangers were introduced and a few mishaps with weapon handling occurred throughout the 5.5 years of involvement which were really a human factor consideration that repeatedly happens in combat environments despite thorough training. Some incidents occurred near dusk or in darkness at the end of a long day of operations when aircrew were fatigued. 9SQN evacuated a significant number of Army personnel wounded or killed by accidental weapon discharges during the campaign.

9SQN weapons trailer
(Image: Bob Upham)

The extended XM21 system minigun ammunition stowage for the Bushranger was of very inferior design generating stoppage problems and taking far too long to reload. Prompt redesign was intended after operational introduction of the Bushrangers in April 1969 but we were too busy operationally to achieve this before I returned home to Australia again in mid-1969.



Loading the extended XM21 minigun ammunition stowage
(Three images: Trevor Ward)

An alternative system, designed by Armament Officer Flight Lieutenant John Payne, was eventually introduced in mid-1971 which simply welded together 2 x 1,500 round linked ammunition packaging containers to create a hopper style bin with a fabricated detachable pyramid shaped cover atop to facilitate easy reloading. These simple bins provided 9,000 rounds minigun ammunition capacity and the combined rate of fire was adjusted to about 450 rounds in a 3 second burst.

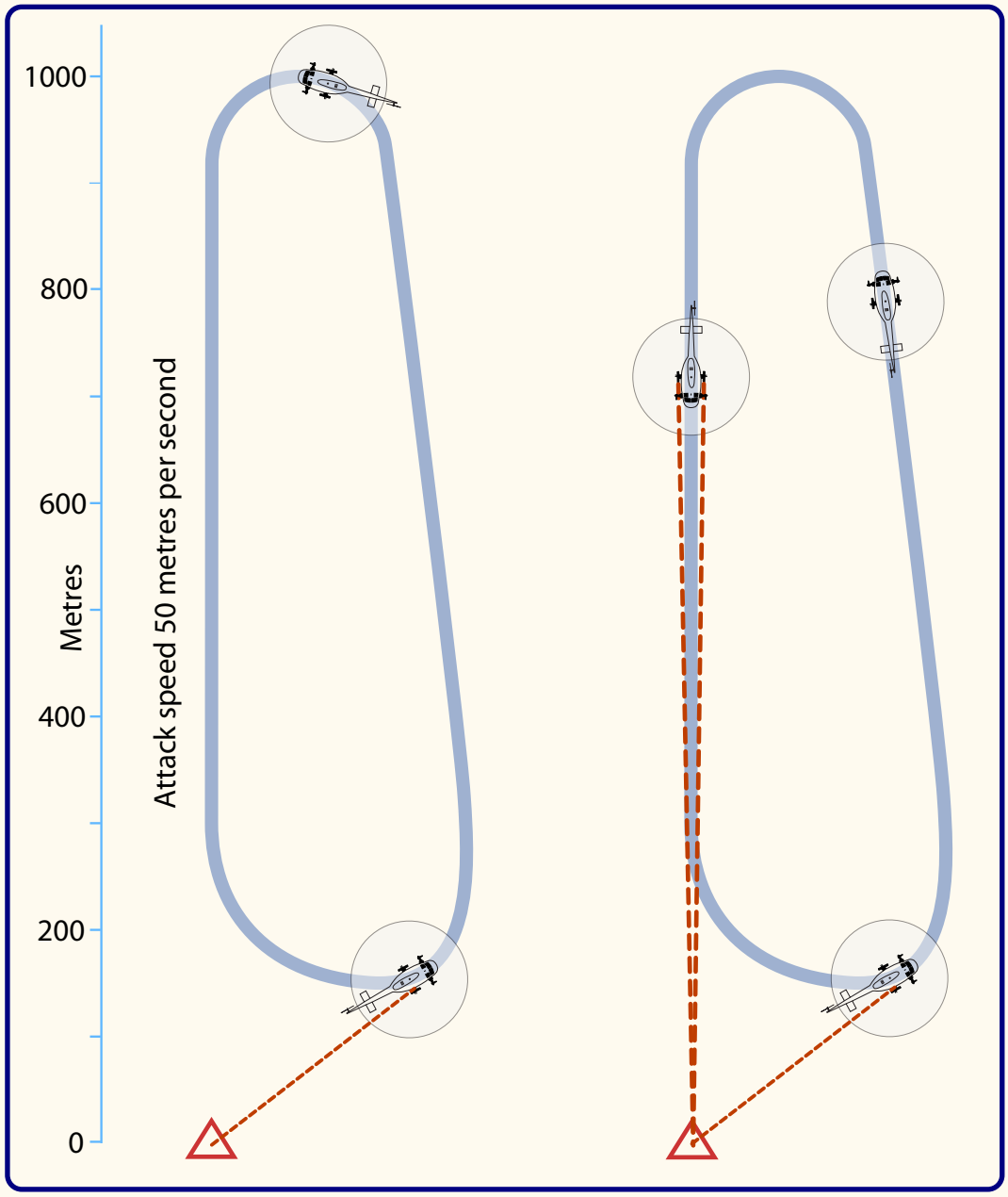
Bushranger hopper-style minigun ammo bins
(Image: Norm Goodall)

The ammunition stowage modification enabled refuelling and full rearming of a Bushranger within 10 minutes utilizing a mechanized bomb-loader vehicle to lift pre-loaded minigun ammunition bins into the aircraft cabin. The reasons for a 2 year delay in developing this important modification are unknown but it greatly enhanced operational efficiency.

Bushranger minigun ammo bin-loader
(Images: Norm Goodall)

The simplicity of the Bushranger weapons system was a key feature. Miniguns needed frequent parts replacement due to high usage wear but the overall system only required minimal maintenance and was well suited to operations under adverse field conditions in remote areas and could be fully re-armed by aircrew. The multi-role concept enabled conversion of a modified aircraft from utility helo to gunship within about 90 minutes including weapon system harmonization. Conversely, gunship to utility configuration took only 30 minutes with the gunsights remaining permanently fitted to a modified aircraft. These characteristics exemplified flexibility, versatility and economy of effort which are long recognized principles for conduct of warfare.

Regarding operating practices, I viewed the US Army Light Fire Team (2 gunships) operating concept which was subsequently adopted by 9SQN as unsound. Attack profiles and direction were varied to suit the tactical situation, but it was impossible for 2 aircraft to maintain continuous fire on a target although this was achievable with a flight of 3 Bushrangers, also increasing available firepower by 50 percent. This was a much safer operating method whatever the enemy's anti-aircraft capability. Only a few Bushrangers were hit by ground-fire with most incurring just light damage, but had the squadron continued operating a flight of 3 gunships (plus an on line rotatable back-up aircraft) as standard practice, then the incidence of ground-fire damage over 30 months of Bushranger operations involving hundreds of enemy engagements would probably have been negligible.



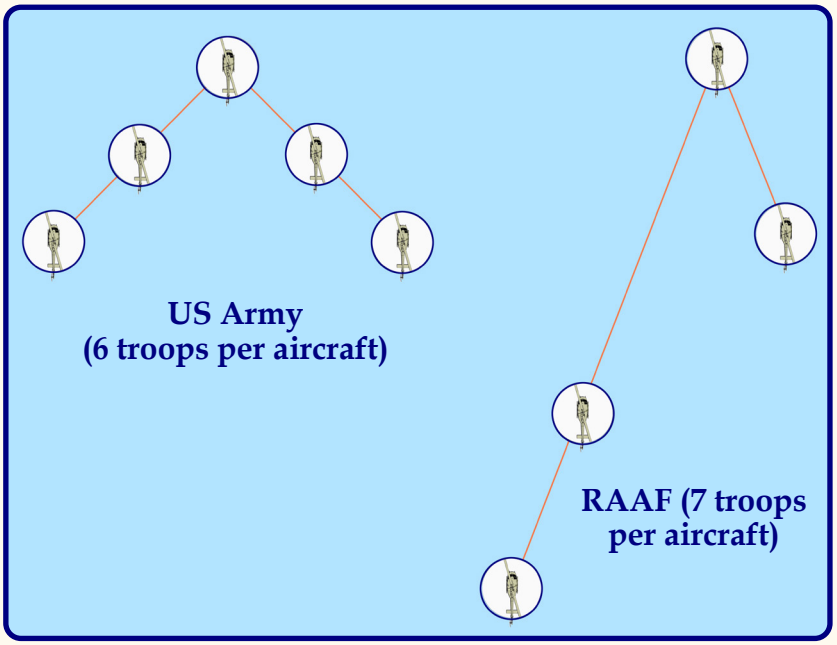
Basic 2 & 3 Bushranger attack profiles

Epilogue

This story has related somewhat to 9SQN operations with the Australian and New Zealand Special Air Service forces to explain the urgency for development of an integral gunship capability within 1 Australian Task Force during the Vietnam War. But the overwhelming bulk of the huge flying effort by 9SQN in 5.5 years of operational involvement – as detailed in accompanying statistics – was support of the other fighting arms of the Australian Army (including New Zealand components) and primarily the infantry battalions. When all 16 Hotel model Iroquois were in Squadron service, 9SQN formally assumed the primary trooping role for 1ATF beginning 1 August 1968. The unit was equally dedicated toward support of all Task Force elements.

Infantry support, the primary 9SQN role
(Lower image: Peter Robinson)

Kangaroo Pad Nui Dat – awaiting troops
(Topmost image: Bob Upham)



Trooping comparisons

9SQN tactical trooping
(Image: Roger Buck)

Aircrew outside 9SQN Alert Hut at Nui Dat, awaiting the happenings of war

The Bushrangers saw 30 months of very active service before cessation of 1ATF operations in Vietnam in October 1971. The body count syndrome associated with that war was abhorrent to most and 9SQN did not tally such statistics, although the Bushrangers inflicted appreciable casualties upon a mostly concealed enemy as often determined by post-action intelligence gathering means. Nothing of course could offset the precious lives of 520 Australian and 35 New Zealand servicemen lost in that conflict plus the US and Vietnamese forces casualties incurred in the 1ATF areas of operational activity.

I have been dubbed creator of the RAAF UH-1H Bushranger gunship, but others most deserving of very special mention were Flight Sergeant 'Blue' Downer - Electrical Fitter, Sergeants Phil Hodge – Armament Fitter, Bob Kenworthy and Roy Robinson – Aircraft Metalworkers. It was great to work with these dedicated men. We created a very effective weapons system and the whole unit contributed in some way. It was a fine team effort.

Sadly; Squadron Leader Len Evans who did our ARDU flight certification and Sergeant Phil Hodge both succumbed to cancer in the 1970s. Phil Hodge was accorded a 9SQN version of a military funeral at Southport Queensland where a lone Bushranger captained by Squadron Leader Arthur Lowe, AFC overflew the graveside and fired a burst of blank ammunition from its miniguns in lieu of the traditional 3 volleys of rifle fire.

First Edition, November 2007 (Revised December 2021)

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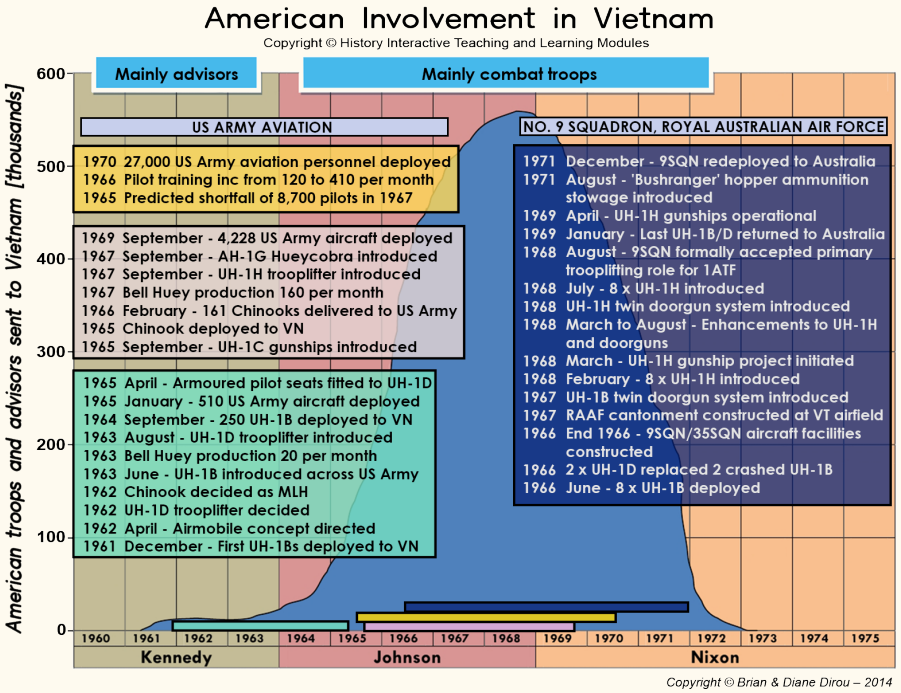
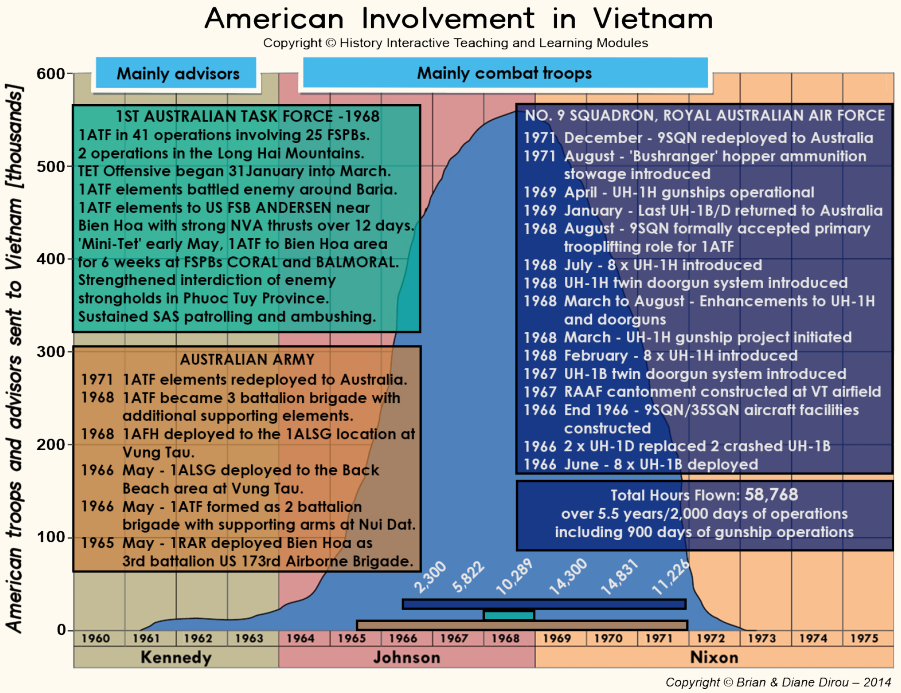
Bushrangers ready for action on Kangaroo Pad at Nui Dat
(Image: Bob Upham)

BUSHRANGER GUNSHIP PROJECT PROGRESSION

Initial deployment of Australian forces in 1965 and subsequent expansion of commitment to the Vietnam War effort paralleled the massive US forces build-up and there was sometimes non-availability of US Army helicopter gunship support for 1ATF operations due to escalating American demand on their resources.



Since 1ATF had been expanded to 3 infantry battalions plus a Centurion tank squadron around the beginning of 1968, there had been major operational involvements for the Task Force with 9 Squadron averaging over 1,000 hours of flying per month after introduction of 16 Hotel model Iroquois by July 1968. Generally 13 of 16 aircraft were on line daily and the hangar hummed with activity, so the gunship project had to mesh with all of this effort.



Initial 9SQN gunship experimentation involved fitment of borrowed obsolescent XM16 weapon system equipments to a Bravo model aircraft A2-1025 followed by limited flight trialling.

Date	Aircraft	Crew	Duration	Task/Mission
09Mar68	A2-1025	Cox/Dirou/Maxwell/Moore	1.00	Ned Kelly Ops 1&2

The Bravo model was too performance limited for the gunship role and the unit had begun re-equipping with Hotel model aircraft so the goal became investigation of Hotel model suitability.

Initial XM21 weapons system equipment fitment experimentation for Hotel model aircraft was conducted in the hangar beginning in May 1968 utilizing A2-380 which was temporarily wired for limited flight trials.

Date	Aircraft	Crew	Duration	Task/Mission
27May68	A2-380	Dirou	1.00	Firing trials Ned Kelly Mk. 2
29May68	A2-380	Dirou	1.00	Firing trials Ned Kelly Mk. 2
29May68	A2-380	Paule/Dirou	1.10	Firing trials Ned Kelly Mk. 2

Fitment of the XM21 armament system on Hotel model rear external stores stations was not viable and use of forward external stores stations for mounting of miniguns was progressed. Hotel model A2-773 was designated the prototype aircraft and used for all the on ground project development work from about July 1968 preceding flight trials of the Bushranger configuration that began in September 1968.

Date	Aircraft	Crew	Duration	Task/Mission
18Sep68	A2-773	Paule/Dirou	1.25	Firing trials for Bushranger configuration
22Sep68	A2-773	Dirou/Ward	1.30	Firing trials for Bushranger configuration
25Sep68	A2-773	Dirou/Ward	1.45	Firing trials for Bushranger configuration
29Sep68	A2-773	Dirou/Haylock	4.35	Firing trials for Bushranger configuration
17Oct68	A2-773	Dirou/Haylock	3.15	Firing trials for Bushranger configuration
18Oct68	A2-773	Dirou/Parsons	2.30	Firing trials for Bushranger configuration
19Oct68	A2-773	Dirou/Dalmolen	1.35	Firing trials for Bushranger configuration
28Jan69	A2-773	Dirou/Creelman	0.50	Doorgun trials
06Feb69	A2-773	Dirou/Hodge/Green	1.45	Rearming trials Nui Dat
07Feb69	A2-773	Dirou/Hazelwood	1.20	Bushranger viewing at Bien Hoa
14Feb69	A2-773	Dirou/Budd	2.00	Harmonization firing
13Mar69	A2-773	Dirou/COMRAAFV	2.30	Bushranger familiarization

A2-773 was used almost continuously for aircrew and maintenance training from 18Mar69 until 19Apr69. A2-772 and A2-383 became available post-gunship modifications early in April. The following aircraft were modified for the Bushranger configuration: 773, 772, 383, 377, 149, 382, 703, 771, 110, some post-Vietnam.

The Bushrangers were declared operational on 21Apr69 crewed as follows:

Date	Aircraft	Crew	Task/Mission
21Apr69	A2-773	Dirou/Lynch/Amos/Richardson	Bushranger 71
21Apr69	A2-383	Butler/Tardent/Jesinowski/Martin	Bushranger 72
21Apr69	A2-772	Budd/Bradford/Love/Rennie	Bushranger 73

No. 9 Squadron personnel outside hangar at Vung Tau late 1968
(Image: Gary McFarlane)

'A SALUTE TO THE BUSHRANGERS'

In days of old, so I've been told, slick drivers were prevented
from killing Cong, because the gun-ship had not been invented.
Then came to town a fighting man, he was looking for a blue
'I want those VC in my sights' cried dangerous Dan Dirou.

The framies and the gun-plumbers, gathered round with furrowed brow
'It can't be done!' they cried as one – 'It can', said Dan – 'Here's how'.
'These miniguns will bolt on here, and there will go the bins
and look – these rockets fit nicely there – where the crew always bark their shins'.

'We'll rewire this, and unscrew that, and make this circuit bigger
and finally, up here on the stick, we'll put a little trigger'.
Full many a day they toiled away, till at last it was complete
'You beauty, boys', cried Dangerous Dan – 'We'll soon have us a fleet'.

And soon the sky all round Phuoc Tuy was raining fire and lead
our Viet Cong chums were full of woe – 'Comrades bring out your dead'.
'This Uc Da Loi they call BD the devil has sent to harm us
- they say his favourite colours are – red blood on black pyjamas'.

'And it seems he's trained a score or more of these bushranging sons of bitches
I tell you, Phuong, it's enough to make a man fill up his britchers.
They shoot from the front, they shoot from the sides, these VC hating vandals
this morning I had to run so bloody fast, I've stuffed my new Ho Chi Minh sandals'.

For year after year those Bushrangers ranged, and many a young life did they save
for mighty were those who flew and who fixed them, unstinting the service they gave.
Gunnies, crewies, pilots and techs, every man did his bit
and many a digger, and many a slick, did they help to get out of the shit.

Now our world's peaceful, or so they say, no threat for fifteen years
let's hope they're right, for comrades lost are a source of bitter tears.
But let's not be idle while we wait, we'll keep the Bushrangers flying
If there is to be another stoush, let the other side do the dying.

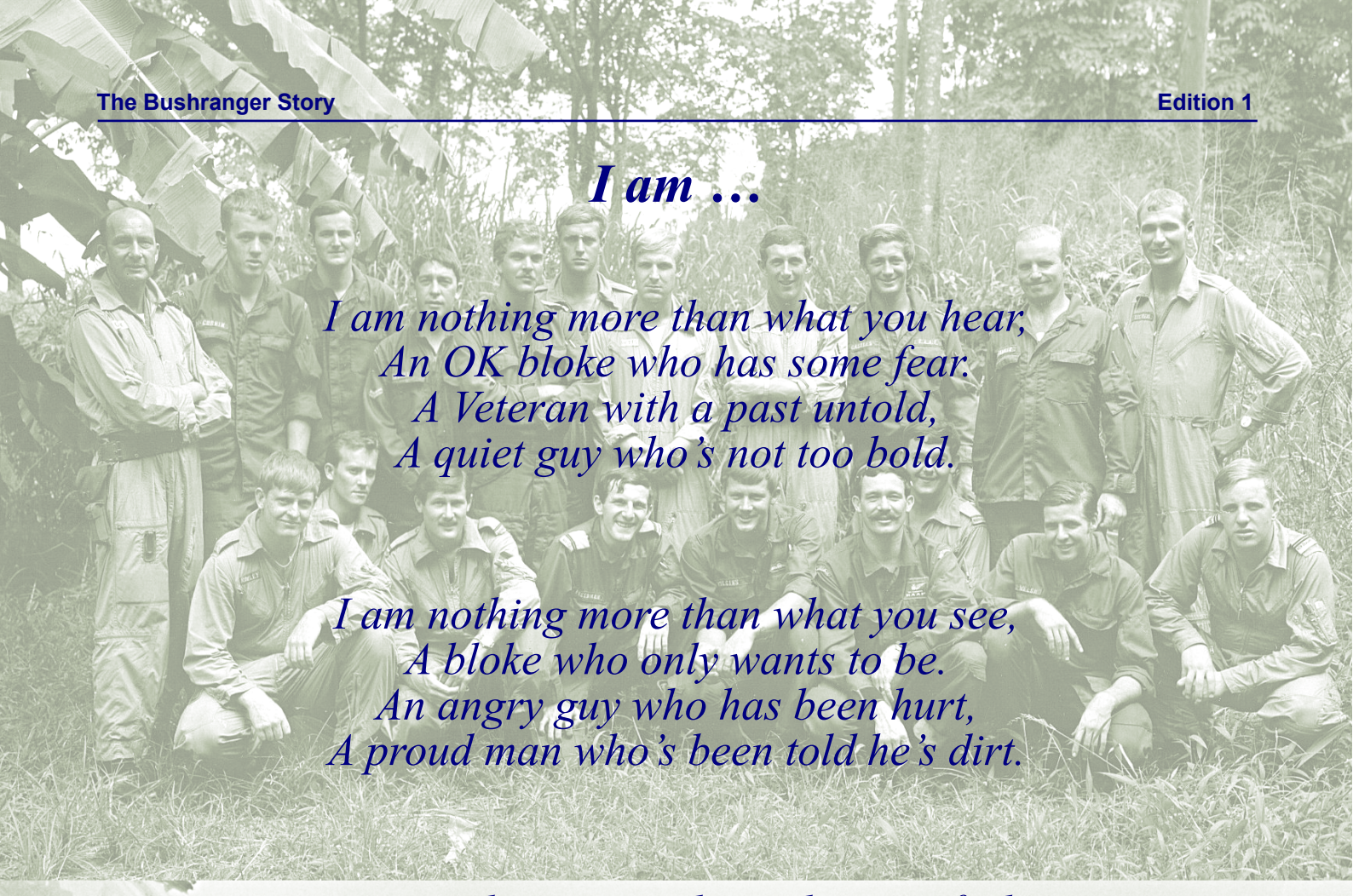
So here's to the Bushies, present, future and past
when they built the gunships, they built them to last.
Though their tails now show Wallaby and not Albatross
the history they proudly bear, will not be lost.

They say that the Army's got Blackhawk
but, Gentlemen, please charge your glasses
we <u>wont</u> let go of the gunships, and the brown jobs
can kiss our arses.

This ballad was written by Wing Commander Mike Hennessy, a former Commanding Officer of No. 35 Squadron RAAF then located at Townsville North Queensland Australia. The unit was a combined Caribou/Iroquois squadron that embraced Air Force Iroquois Gunships for a time before all RAAF helicopters passed to Australian Army Aviation. Mike composed the tribute in November 1986 when the Gunships were transferred from No. 9 Squadron to No. 35 Squadron.

A good relationship generally existed between Air Force and Army at the operating level and many enduring friendships developed over the years. The last verse of the ballad reflected the esprit-de-corps of the RAAF helicopter force and bitter disappointment that No. 9 Squadron was to be disbanded in 1989 after providing 25 years of very dedicated support to the Australian Army.

Slick	US Army slang for a non-gunship helicopter
Framies	Airframe Fitters
Gun-plumbers	Armament Fitters
Phuoc Tuy	Phuoc Tuy Province, South Vietnam
Uc Da Loi	Vietnamese for Australian
Phuong	Vietnamese name
Gunnies	Iroquois Gunners
Crewies	Iroquois Crewmen/Gunners
Techs	Technical personnel
Digger	Australian soldier
Wallaby	No. 35 Squadron emblem
Albatross	No. 9 Squadron emblem
Brown jobs	Army personnel



I am …

I am nothing more than what you hear,
An OK bloke who has some fear.
A Veteran with a past untold,
A quiet guy who's not too bold.

I am nothing more than what you see,
A bloke who only wants to be.
An angry guy who has been hurt,
A proud man who's been told he's dirt.

I am nothing more than what you feel,
A happy bloke in times unreal.
A killer when I had to be,
A survivor in an angry sea.

I am nothing more than what I dare,
A father with great love and care.
A husband who can love with glee,
All I truly am is…

… me

by Anthony Pahl, OAM, 2000

VUNG TAU TAXIS

The transport over there in Nam
was the best we ever had.
Whenever you had to travel
all you did was call a cab.

Our cabs were the 'Vung Tau Taxis'
and they never let us down.
No matter what the problem was
they'd always be around.

They would take you to the problem spots
thru sunshine and thru rain.
Then when you needed help out there
they would come back out again.

The crew on our 'Vung Tau Taxis',
they only numbered four.
There was a pilot and co-pilot
and a gunner at each door.

They would carry out our wounded
and bring in re-supplies.
They were our 'Angels of Mercy'
for all us Infantry guys.

They put in a lot of flying time
and never once did they complain.
They were the greatest cabs on earth mate,
that's how they got their name.

Now the prettiest picture we ever saw
was them whirring through the skies.
Coming in to pick you up
like great big dragon-flies.

They were the men of Number Nine Squadron,
based there at Vung Tau.
If ever there were men to praise,
these guys can take a bow.

When at last you'd finished your job
you would hear this terrific drone.
Here come our 'Vung Tau Taxis' mate,
they're coming to take us home.

(This poem dedicated to #9SQN, RAAF, SVN, 1967 – Copyright © 'Ned' Falconer, 7RAR)

PERFORMANCE STATISTICS – NO. 9 SQUADRON RAAF VIETNAM THEATRE – JUNE 1966 TO DECEMBER 1971

[5.5 Years (2,000 Days) Including 2.5 Years (900 Days) of Gunship Operations]

Deployment Strength: 8 x Bell UH-1B Iroquois Helicopters and about 90 personnel

Mature Unit Strength: 16 x Bell UH-1H Iroquois Helicopters and about 170 personnel

Hours Flown: 58,768

Sorties: 237,806

Passengers: 414,818

Freight: 12,207 tonnes

Casevacs/Medevacs: 4,357 personnel

Weapons Expenditure:
7.62mm – 15,512,361 rounds
2.75 inch Rockets – 29,285 rounds

Maintenance Effort:
250 Major Servicings & approximately 1,800 Intermediate Servicings

Aircraft Availability:
Averaged 13 of 16 aircraft on line daily; about 83 percent

Aircraft Attrition:
7 lost due multiple causes and 23 suffered battle damage

Casualties:
Killed – 6, Wounded – 8, Injured – Unknown

HONOURS & AWARDS, NO. 9 SQUADRON RAAF VIETNAM WAR – 1966 to 1971

(The Australian Order of Precedence of Awards)

4 x DSO *(Companion of the Distinguished Service Order)*

2 x MBE *(Member of the Order of the British Empire)*

32 x DFC *(Distinguished Flying Cross)*
RAN 1, RAAF 26, RNZAF 5

1 x CGM *(Conspicuous Gallantry Medal)*

1 x GM *(George Medal)*

9 x DFM *(Distinguished Flying Medal)*

1 x BEM(G) *(British Empire Medal for Gallantry)*

2 x BEM *(British Empire Medal)*

38 x MID *(Mentioned-in-Dispatches)*
RAN 2, RAAF 34, RNZAF 2

1 x *Vietnamese Cross of Gallantry (with Silver Star)*

(Source: National Curator, No. 9 Squadron Association Inc., 2005)

UNIT COMMANDING OFFICERS

No. 101 Fleet Co-operation Flight formed at Point Cook on 01 July 1925.

April 1926	Squadron Leader A. E. Hempel	Point Cook
August 1926	Squadron Leader A. E. Hempel	Bowen
January 1929	Squadron Leader A. E. Hempel	HMAS Albatross
December 1929	Squadron Leader J. E. Hewitt, OBE	
January 1930	Squadron Leader V. E. Scrivener (RAF)	
February 1931	Squadron Leader J. E. Hewitt, OBE	
May 1933	Flight Lieutenant E. G. Knox-Knight, OBE	Point Cook
December 1935	Flight Lieutenant L. V. Lachal	

No. 5 Fleet Co-operation Squadron was formed from No. 101 Fleet Co-operation Flight at Richmond on 23 April 1936.

April 1936	Flight Lieutenant L. V. Lachal	Richmond
May 1936	Squadron Leader C. B. Wincott (RAF)	
March 1939	Squadron Leader J. A. S. Brown (RAF)	

No. 9 Fleet Co-operation Squadron was formed from No. 5 Fleet Co-operation Squadron at Richmond on 01 January 1939.

March 1939	Squadron Leader J. A. S. Brown (RAF)	Richmond
December 1939	Flight Lieutenant S. A. C. Campbell	
January 1940	Squadron Leader J. A. S. Brown (RAF)	Rathmines
April 1941	Squadron Leader D. A. Connelly (Temp)	
June 1941	Wing Commander J. Alexander, OBE	
August 1941	Wing Commander D. A. Connelly	
June 1942	Flight Lieutenant P. O. Lavarack	
September 1942	Squadron Leader P. J. McMahon, DFC	
January 1943	Squadron Leader P. J. McMahon, DFC	Bowen
September 1943	Squadron Leader H. G. Havyatt	
October 1943	Flight Lieutenant N. D. Fader, AFC	
December 1944	Flight Lieutenant N. D. Fader, AFC	Rathmines

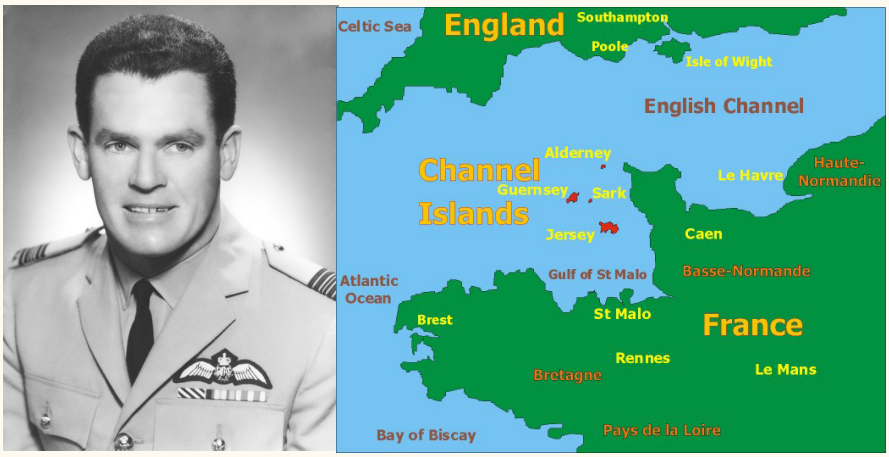
No. 9 Fleet Co-operation Squadron was disbanded at Rathmines on 31 December 1944 after the Navy ceased amphibian operations from warships. No. 9 Search and Rescue Squadron was formed at Williamtown on 11 June 1962, becoming recognised as No. 9 Squadron in 1963.

June 1962	Squadron Leader R. A. Scott	Williamtown
October 1962	Squadron Leader R. A. Scott	Fairbairn
December 1965	Wing Commander R. S. Royston	
April 1966	Wing Commander R. A. Scott, AFC	
June 1966	Wing Commander R. A. Scott, AFC	Vung Tau
December 1966	Wing Commander R. S. Royston	
June 1967	Squadron Leader P. J. Reed	
May 1968	Wing Commander J. A. Paule	
May 1969	Wing Commander R. W. Hibben, AFC	
June 1970	Wing Commander P. L. H. Coy	
April 1971	Wing Commander P. W. Mahood	
December 1971	Squadron Leader T. Ward, DFC (Temp)	Amberley
March 1972	Wing Commander J. M. Chesterfield	
August 1973	Wing Commander J. A. Paule, DSO, AFC	
December 1975	Wing Commander B. L. J. Dirou, DFC	
August 1977	Wing Commander R. C. Thompson,	
April 1978	Wing Commander P. W. Mahood, DSO	
November 1978	Squadron Leader P. J. Wagner (Temp)	
January 1979	Wing Commander N. Leray-Meyer, AM	
January 1981	Wing Commander P. C. Spurgin	
November 1982	Wing Commander T. C. A. Wilson, AM, AFC	
January 1985	Wing Commander P. Hales	
September 1987	Wing Commander A. G. Houston, AFC	

No. 9 Squadron was disbanded on 14 February 1989 when aircraft assets were transferred to Australian Army Aviation.

IMAGES – IROQUOIS GUNSHIP OPERATIONS POST-VIETNAM

The Author – Wing Commander Brian Dirou, DFC (Retired)



(Image: 1971)

The 'Dirou' family name emerged in France pre-15th century and a reef named 'Les Dirouilles' is located near Jersey in The Channel Islands. A forebear emigrated from near Brest in France to Australia in the mid-1800s and family heritage then became an intermingling of French, Irish and British genealogy.

3 family perished in WW1 combat and another survived Australia's worst ever military carnage at Fromelles. He was badly burned and gassed in a later action. An uncle was captured at the fall of Singapore spending 3.5 years as a POW on the Thailand-Burma railway; a brother of Brian Dirou served with the Australian Army during the Malayan Emergency and 2 nephews served at Swanbourne. Brian's wife, Diane, was formerly an Air Force Nursing Sister.

Brian joined the RAAF early 1957 as a trainee aircrew signaller, graduating as NCO aircrew and serving on crashboats, Lincoln and Dakota aircraft before undergoing pilot training after being commissioned. Further service on Dakotas followed then a tour on Sabre fighter aircraft with No. 76 Squadron before Iroquois helicopter training in 1967.

He served in Vietnam during 1968, 1969 and 1971 accumulating 4,360 sorties and was involved in 211 insertions/extractions of Australian and New Zealand Special Air Service patrols. He was mission leader for 2 of only 4 night extractions of SAS patrols in contact with enemy forces during Australian involvement in that war, earning an 'in-the-field' award of the Distinguished Flying Cross invested personally by Her Royal Highness Queen Elizabeth II.

Paralleling his very active operational roles in 1968/69, he was Project Officer for development and operational introduction of the RAAF 'Bushranger' gunship, a version of the UH-1H model Iroquois unique in the world. During his overall Vietnam service, he participated in 50 engagements with enemy forces including 15 flying Bushranger gunships in May 1969.

Brian was also a qualified Forward Air Controller and served at Air Support Unit RAAF Williamtown, the forerunner of the Australian Joint Warfare Establishment (now, The ADF Warfare Training Centre) generating Joint-Service doctrine. He also established and headed the Helicopter Operations cell at RAAF Operational Command, Glenbrook NSW during 1972/73.

Following completion of Royal Australian Air Force Staff College training in 1975, he commanded No. 9 Squadron at RAAF Base Amberley Queensland during 1976/77 and retired early from the Air Force in 1978 at age 41, after 4 years at Wing Commander rank.

Brian later spent 10 years involved in flight operations training with international airlines in Australia, Austria, Kuwait (post-Gulf War 1) and Brunei preceding retirement in 1999.