THE RAN'S BELL 206B KIOWAs

Fleet Air Arm Association of Australia
HERITAGE FEATURE

by Kim Dunstan

Bought to replace the RAN's ageing Scout helicopters servicing HMAS Moresby, the little Kiowa filled that role with distinction - but it did a whole lot more, too.

In 1973 the Royal Australian Navy (RAN) acquired its first Bell 206B-1 Kiowa helicopter, primarily to replace the Westland Scouts which had operated on HMAS *Moresby* (II) for many years. Like the Scout that had preceded it, the Kiowa's task was to assist with *Moresby's* survey work charting Australia's coastline. Being a light utility helicopter it could easily ferry survey crews and equipment ashore especially in remote areas.

In the early 1980s when the FFG frigates and other small ships began embarking helicopters, the 206B-1 was used to train small 'flight' crews until the AS350 arrived. (See **here** for the full story).

During their 27-year span with the RAN, nine Kiowas were used at various times, until their retirement by September 2000.

Bell 206B-1 Kiowa & CAC CA-32

The Kiowa helicopters the RAN operated were sourced from the Australian Army Air Corps (AAAC). They were the 206B-1 version with upgraded gearbox and rotor blades, based on the U.S. Army OH-58B Kiowa (a variant of the Bell 206A JetRanger). The Australian Army used the 206B-1 as a light observation and utility helicopter, but the RAN utilised them for hydrographic survey work and utility duties.

The initial 12 Bell 206B-1 (serials A17-001 to A17-012) were shipped from Bell's Fort Worth works in the USA and assembled at the Bell plant at Brisbane Airport, with the first unit delivered to the Australian Army on 22 November 1971. The remaining

Contents

airframes (A17-013 to A17-056) were license-built by the Commonwealth Aircraft Corporation (CAC) at Fishermen's Bend, Melbourne, and were designated the CA-32 Kiowa. A bid to re-name them 'Kalkadoon' after an Australian Indigenous tribe failed as it never caught on.

The first CA-32 Kiowa (A17-013) was rolled out by CAC in April 1973. A short time later it was delivered to the Army at Amberley Qld. In July 1973 it moved to the Aircraft Research and Development Unit (ARDU) at Laverton (near Melbourne), for trials. From there it was transferred to the RAN.

The RAN 206B-1 Kiowas

A17-013 landed at HMAS *Albatross* (NAS Nowra) on 10 October 1973, flown from Laverton by LCDR Bruce "Crow" Crawford and LEUT Brian Abraham. On 11 October it joined 723 Squadron, the helicopter training and fleet requirements unit, and its serial number was changed to feature an "N" prefix (rather than "A") to designate it as a Navy aircraft.

In February 1974 it embarked on the hydrographic ship HMAS *Moresby* for survey and utility duties, to replace the Westland Scout. The second 206B-1 arrived at 723 in August '74, and the third in March of 1977.

Between 1973 and 2000, the RAN had the use of nine 206B-1s - all sourced via the Army. Generally, three (but up to five) were on the books at any one time, based at NAS Nowra except when embarked on ships. At Nowra tasks included liaison, range clearing, and aircrew training. Apart from the Kiowas on HMAS *Moresby*, various 206B-1s were deployed for deck trials, or embarked for short-term duties on HMAS *Adelaide*, *Anzac, Arunta, Stalwart, Sydney, Tobruk* and *Jervis Bay*.

Right: Kiowa assembly: *National Archives photo showing Kiowas under construction at Fisherman's Bend plant – all Army machines.*✈

The RAN's first Kiowa was flown from Laverton by LCDRs Bruce "Crow" Crawford and Brian Abraham on 10Nov73. ***Below****: Bruce chatting on arrival with CMDR McKenzie, Commander Air at Albatross. It was the first of two Kiowas to be sourced from the Army to Service the Flight aboard HMAS Moresby. Note the makeshift "Navy" sign affixed to the side of the aircraft with gaffer tape!*✈

As a conventional light helicopter of the Vietnam era, the Kiowa had little of great sophistication in the cockpit. Designed for single pilot use, it was all analogue with flight instruments oriented to the right, engine in the centre and communications to the left. The two Cyclic sticks were identical, with an electric trim, press to transmit and load-lifting pickle button. Each seat had its own Cyclic lever (not shown), with a twist grip throttle for start and shut-down (in flight the rotor rpm was controlled by a governor), and a pair of conventional rudder pedals for directional control. There was little overhead the pilot's position except a rotor brake, if fitted (RAN units were).

Not surprisingly, visibility was excellent and the aircraft was light and responsive. It was a pleasure to fly.

Kiowas on charge to the RAN used serials with the 'N' prefix: N17-013 (892), N17-025 (891), N17-049 (890), N17-006 (896). Those with the 'A' prefix were variously on loan from the Army, such as A17-004, A17-005, A17-032, A17-034 and A17-056.

The RAN 206B-1s were not 'navalised' but had items not found on Army machines, including a rotor brake; low profile skids for stability and to facilitate access to ships' hangars; tie-down rings on the skids for deck lashings; a main rotor-blade restraint kit, and Nowra type dinghy packs. A tie-down deck was installed in the rear cabin when used as cargo space, with room for an optional 19.5-gallon fuel cell on the starboard side with gravity feed to the main fuel tank. The 206B-1 had good avionics for the time, but were not equipped for night flying at sea and did not carry weapons. Embarked Kiowas generally had a rescue hoist fitted.

In summary the Bell 206B-1 Kiowas were reliable, fuel efficient, and could carry a pilot and four passengers, or cargo up to 680 kg in a sling load. A particle separator (dust-filter) on the engine intake removed debris and abrasive coral sand thrown-up by the rotor blades. As the 206B-1 was not designed for shipboard use, care was needed while operating to and from ships in adverse wind conditions, due to possible tail-rotor stall. Overall the Kiowa performed well and pilots enjoyed flying them.

Bell 206B-1 Summary

The Bell 206B-1 Kiowa was a light utility helicopter based on the US Army OH-58B (a variant of the civilian JetRanger 206A), with similar airframe, teetering-head two-blade rotor, and skid landing gear.

The 206B-1 cockpit had good visibility, with side-by-side seats for pilot (RHS) and co-pilot or passenger, with a three-seat bench in the rear cabin. Doors on both sides of the cockpit and cabin could be removed. The single 420hp Allison 250-C20B turboshaft engine was mounted above the cabin, with transmission and two-blade rotor. The 206B-1 used an upgraded gear box and rotor blades.

The Kiowa fuselage was aluminium honeycomb, semi-monocoque construction. An impact-resistant fuel cell was under and behind the rear cabin seats. The tail boom had an exposed tail-rotor drive-shaft mounted on top, and horizontal stabilisers either side. The empennage had a two-blade anti-torque tail rotor and vertical fin. A tubular 'bump skid' on the tailfin alerted pilots of a low tail when landing.

A cargo hook was fitted to the underside of the cabin with a sling load of up to 680 kg (1,500 lb). A Breeze electric rescue hoist, operated by an aircrewman, with 33 m (110 ft) cable capable of lifting 136 kg (300 lb) could be fitted above the port side cabin door. Dual control was optional with the co-pilots cyclic and collective stowed in the aircraft except for training. The RAN livery was Oxford blue and white; Army 206B-1s on short-term loan generally kept their camouflage colours.

Pilot & Maintainer Training

In the early 1970s several 723 Squadron pilots (Wessex and UH-1 Iroquois qualified) were sent to the Army Aviation training school at Oakey, Qld, where they converted to the Bell 206B-1 Kiowa. Several qualified as instructors and on return to NAS Nowra established a pool of Kiowa pilots. Because the Bell 206B-1 shared some characteristics of the Bell UH-1 Iroquois, conversion went smoothly.

Maintainers in specialist trades were also 206B-1 trained at the Army Aviation School at Oakey. The Kiowa's simple layout and ease of access to the engine and other vital parts assisted servicing. It was a relatively trouble-free and reliable helicopter, easy to maintain and it operated with high levels of serviceability. The Flight Deck Training Unit at NAS Nowra prepared aircrew and flight deck crews ready for embarkation with the aid of a 'dummy deck' on the airfield.

First-of-Class Flying Trials

As the Bell 206B-1 Kiowa needed certification to operate on HMAS *Moresby*, First Of Class Flying Trials (FOCFT) were conducted. The first phase on *Moresby* took place at Garden Island Dockyard, Sydney, on 07 December 1972. This was a static compatibility review using A17-001, a Holsworthy Army 206B-1, to verify its ability to carry bulky survey equipment; identify any alterations needed to the ship's hangar; to review tie-down points, and assess any necessary flight deck modifications.

The second phase was from 23 to 25 January 1973, assisted by RAAF ARDU, with A17-001 doing several tests at NAS Nowra, then flying to *Moresby* in Jervis Bay (JB) for landing and take-off trials under varying conditions before returning to Nowra afterwards. This phase detailed low-profile skids to allow the 206B-1's rotor-head to clear the hangar door; the need to cut a niche for the rotor-blade tip in the hangar forward bulkhead and other changes inside the hangar; to fit tie-down rings on the skids, and to remove several fight deck safety-rails deemed to be at risk of compromising the Kiowa's tail rotor and fin.

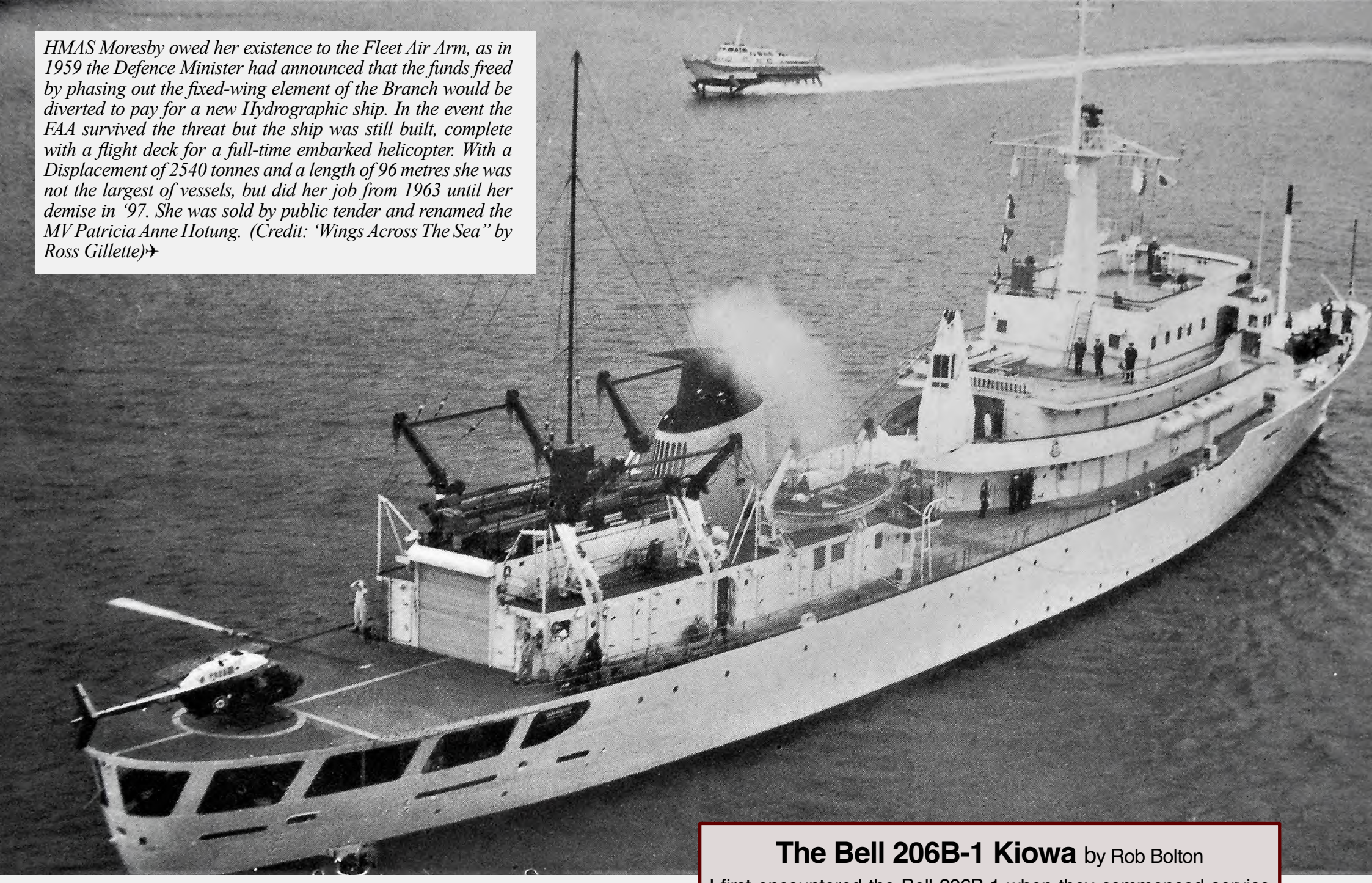
The third phase took place from the 3rd to 8th of August 1973 with A17-013* with daily embarkations aboard *Moresby* in JB. After tie-down and hangar specification checks, the aircraft conducted a series of take-offs and landings under controlled wind and sea conditions within the Bay. Trials then continued outside JB with relative winds up to 40 knots and ship motion up to 4° of roll and 3° of pitch, as noted on the ship's pitch & roll recorder. *Moresby's* small flight deck meant deck operations required careful coordination between the pilot and the bridge.

Note: At the time 013 was an Army machine but fitted with a rotor brake and low-profile skids - it was transferred to the RAN as N17-013 in October 1973.*

The third phase involved 118 landings and take-offs, setting parameters for the Kiowa to operate from *Moresby*. On completion FOCFT the Bell 206B-1 type was endorsed for day-time operations on *Moresby*, subject to the Ship Helicopter Operating Limits resulting from the Trial. Modifications to the ship's flight deck and hangar to suit the 206B-1 were then completed at the ship's upcoming refit.

RAN Bell 206B-1 Basics
(performance subject to conditions)

Manufacturer: Bell Helicopter Co, USA, or Licence-built by CAC
Role: Survey and light utility helicopter
Number: 4 RAN + 5 Army on short term loans
Crew: Pilot & co-pilot or passenger, cabin 3 seats
Main Rotor Diameter: Two blades 10.7 m (35 ft 4 in)
Height: 2.9 m (9 ft 6 in)
Length incl rotors: 12.1 m (39 ft 6 in)
Engine: One 420hp Allison 250-C20B turboshaft
Max speed: 120 kt (222 km/h), (138 mph)
Economic Cruising speed: 86 kt (160 km/h), (99 mph)
Max range: Approx. 300 nm (500 km), (345 miles)
Weight empty: 664 kg (MTOW 1451 kg, 3200 lb)
Sling load: 680 kg (1,500 lb)
Service ceiling: 3,871 m (12,700 ft)
Weapons: Nil



HMAS Moresby owed her existence to the Fleet Air Arm, as in 1959 the Defence Minister had announced that the funds freed by phasing out the fixed-wing element of the Branch would be diverted to pay for a new Hydrographic ship. In the event the FAA survived the threat but the ship was still built, complete with a flight deck for a full-time embarked helicopter. With a Displacement of 2540 tonnes and a length of 96 metres she was not the largest of vessels, but did her job from 1963 until her demise in '97. She was sold by public tender and renamed the MV Patricia Anne Hotung. (Credit: 'Wings Across The Sea" by Ross Gillette)✈

The Bell 206B-1 Kiowa on HMAS Moresby

HMAS *Moresby* was the RAN's first purpose-built hydrographic survey ship. At 96 metres long it displaced 2540 tonnes, complete with hangar and small helicopter deck at the stern. Commissioned in March 1964, *Moresby* made a major contribution towards mapping Australia's coastline including surveys of islands to the north. *Moresby*'s first helicopters were Westland Scouts, which carried out survey duties from 1964 to December 1972, then superseded by the Bell 206B-1 Kiowa.

After a refit at Sydney HMAS *Moresby* returned to sea in February 1974, embarking her Bell 206B-1 (N17-013) on 04 Feb. The year ahead was busy with surveys conducted in South Australia, Tasmania, Western Australia, the Monte Bello Islands, and Northern Territory. Successive Kiowas embarked on *Moresby* until the ship was decommissioned in November 1997. [Including N17-013 (892); N17-025 (891); N17-049 (890), and N17-006 (896)].

Having a helicopter available for survey work was a great advantage allowing bulky equipment and survey parties to be quickly ferried ashore, making it easy to reach difficult locations, avoiding hauling heavy equipment through dense undergrowth and up steep gradients. A helicopter greatly simplified the landing and retrieval process between ship and shore, also resupplying survey parties isolated ashore for lengthy periods at radio triangulation stations.

While the 206B-1's primary role was assisting with survey work, there were other tasks such as resupply, delivery and mail runs to shore and other jobs a helicopter could do, sometimes involving rescues and aid to the civil authorities. This included MEDIVACS where people in remote locations needed rescue or urgent medical attention. The following examples cover a variety of locations and situations.

Search and Rescue Missions

As *Moresby* was often operating in remote coastal waters and was equipped with an air asset it was not unusual for her to be asked to assist in civilian Search and Rescue events.

In February 1974, while in Southern Tasmania waters, *Moresby's* Kiowa flew a lighthouse keeper from remote Maatsuyker Island to Hobart for urgent dental treatment. Two weeks later a skin diver with serious blood poisoning was flown to Hobart for hospital admission.

In April *Moresby* evacuated a crewman with serious injuries from the Japanese fishing vessel, Koei Maru, some 500 nautical miles off the Tasmanian coast bringing him to Hobart. The Japanese Maritime Safety Agency and Koei Maru's owner were grateful for his rescue and kind treatment.

On 26 June 1974, while *Moresby* was surveying the Geelvink Channel,

The Bell 206B-1 Kiowa by Rob Bolton

I first encountered the Bell 206B-1 when they commenced service with the RAN on 723 Squadron, POATC Gavin Greer, EMAC John Branchi and I were the first radio mechs to be qualified on the Kiowas. The 206 was to replace the Westland Scout operating on the survey ship HMAS *Moresby* over in Western Australia. The Kiowas I serviced were 890, 891 and 892 which were allocated to the RAN.

For us Radio Mechs the Kiowa was a great bird even though it had several radios including the pain in the butt crystal control HF radio, the radio fit-out was advanced for the time with solid state VHF AM/FM, UHF, VOR, ILS, RDF, Marker beacon and the provision for the secure voice system.

The service schedule was based on the 100-hour service and the aircraft was changed over at RAAF Pearce or RAAF Darwin when required. At NAS Nowra we stripped the Kiowa down and loaded it into a Hercules and flew to WA or NT and reassembled the 206 on arrival and handed it over to the *Moresby* crew. After backloading the old Kiowa onto the Hercules we returned to Nowra and would service it ready to fly again. The big pain was getting the NW W.A. iron-ore dust out of the helicopter's avionics and associated wiring.

The AE side when the 206 first arrived from my memory was CPO Tiny Warren, LS Gus Washbourne, with EMAW David Larter as the 'lecky'. As a crew we all worked together and the Radio Mech was the jack of all trades as our systems were so reliable and the AE often needed menial jobs done - for example: polish the rotor blades, vacuum the dust out of the tail boom, and any other job deemed too technical.

The Kiowa 206B-1 was a great helicopter for a small ship 'flight' and we served on all HMA Ships with a flight deck, and the aircrew I served with were a great bunch: LEUT Tony Drover [HMAS Tobruk (II) & Stalwart (II)]; and LEUTs Cris George, Derek Frew and John McCormack [HMAS Sydney (IV)]. And many more that I can't remember.

One of the best trips with the 206 was the posting small ships flight to HMAS Sydney FFG03 the crew was LT Derek Frew, LT McCormack, CPO Chris Fitzgerald, LS Bruce Tarvitt, AB Lawrence Stubbs, and yours truly LS Bob Bolton as radio mech/ lecky, we deployed aboard and were welcomed to the ship with the usual welcome 'BLOODY BIRDIES' there goes our flight deck. But we were soon accepted when mail arrived, or the CPO stores basher needed to fly ashore for stores; and the skipper loved to fly in his helicopter.

The Bell 206B-1 was a great bird with excellent reliability, easy to service, and a dream to fly as even I was allowed to take the stick-on occasion when we were on flyaway - and if a radio mech can do it anyone can - especially if the pilot is nearby.✈

***Above**: A fine shot of HMAS Moresby going about her daily business. The Kiowa has just left the flight deck with a sling-load of materials for a survey camp somewhere. (Defence Image).✈**Right**. Moresby's helicopter in flight. The great majority of operations were flown doors-off, as in this shot. The left hand seat is occupied by a member of the ship's company, so perhaps she was ferrying people to a survey camp somewhere. Note also the 'cable cutters' fitted above and below the nose as a last-ditch defence against striking a power line. Image Steve Swain. ✈*

near Geraldton WA, a radio call came to search for a fishing vessel that foundered off Kalbarri. The next day *Moresby's* Kiowa sighted three crew members at the base of the Zuytdorp Cliffs, about 16km north of Kalbarri, who were rescued suffering from exhaustion plus cuts and bruises.

In early 1975 surveys were conducted in the Northern Territory. Back in Western Australia waters in July, with the assistance of the Kiowa, *Moresby* embarked some 18 tonnes of artefacts, from the infamous 1629 Dutch East India Company shipwreck *Batavia*, with the ship transporting items from Houtman Abrolhos to the Western Australian Maritime Museum at Fremantle.

On 29 October *Moresby* was directed to rendezvous with the Japanese fishing trawler Fujisaie Maru off the WA coast. An on-board altercation had left the trawler's radio operator dead and the boatswain suffering from serious stab wounds. *Moresby's* Kiowa evacuated the injured sailor to Fremantle the following morning.

More Rescues

In 1977, *Moresby* was surveying the NW WA coast near Yampi Sound. On 12 July *Moresby* was directed to search for a Vietnamese refugee boat. The ship's 208B-1 found a 70ft vessel the following day, carrying 27 adults and 20 children ranging from two to 60 years of age. *Moresby* provided urgent supplies while a medical officer checked the passengers. The vessel was then escorted to Broome arriving on 15 July, ending a nine-and-a-half-week voyage for the refugees.

One afternoon Police at Onslow WA asked *Moresby* to assist in the search for a man lost overboard from a fishing vessel near the Mangrove Islands. *Moresby* coordinated the search with other aircraft and fishing vessels joining her own helicopter. Next morning the man was found on Large Island, 25km NE of the Mangrove Islands, and the Kiowa returned him to Onslow.

On 31 January 1986, two divers were stranded on Figure of Eight Island, near Esperance WA, when their boat ran aground on a reef. As *Moresby* was visiting Esperance the Kiowa rescued the divers, following directions from RAAF and civilian aircraft. The divers were lucky the ship was in the area and that the 206B-1 was serviceable, having just had its engine repaired.

An Inspiring Southern Indian Ocean Medivac

In November 1979, Moresby was acting as a radio relay and support ship on the Cape Town to Fremantle leg of the WA 150 Parmelia Yacht Race - following the 1829 route of the barque *Parmelia* which had carried settlers from Plymouth to the Swan River Colony, WA. On 21 November *Moresby* was requested to medivac an injured crewman from the 17-metre, twin-masted schooner, *Seltrust Endeavour.* After a wide-area search the yacht was found at 42°50' South, 94° East in the Southern Ocean, some 2000 km SW of Fremantle.

The crewman, who had suspected broken ribs, was lifted-off by *Moresby*'s Bell 206B-1. It was an incredible feat by pilot Al Mackenzie; co-pilot Brett Dowsing and aircrewman Peter Cummings. It involved the 206B-1 hovering close to the yacht, but clear of halyards, masts and other obstacles, whilst the yacht pitched and rolled with the waves. First the co-pilot was lowered onto the yacht where the injured crewman was secured to a Paraguard stretcher, then winched-up and flown to *Moresby* where he received medical attention – with the helicopter returning to collect the co-pilot. The yachtsman Philip Thomas soon recovered but remained with the ship until it reached Fremantle on 25 November 1979.

This medivac was completed in difficult circumstances, further complicated because the 206B-1 was a small helicopter without auto-hover and with limited control margins, and restricted by a 30-metre winch cable. It was a demanding task required skill and intense concentration in a risky situation, but with a successful rescue achieved. You can read it in more detail later in this document.

Left from top: *[1 & 2] The Navy Kiowas had a cumulative maintenance schedule, building up to a major overhaul which required base support. Normally, a job such as replacement of the skids would have been done ashore with a crane, but necessity breeds invention and it was achieved on Moresby's deck simply by flying out of the old skids and hovering over the deck whilst the new ones were fitted.* ✈

[3] Quite significant maintenance could be done aboard, such as engine changes and, as shown in this image, a transmission change. This would normally be an unscheduled requirement, however, as it ate into survey support time. ✈

[4] Heavy maintenance was usually conducted at NAS Nowra, where the aircraft was essentially stripped back to the bare shell. Here, an Army airframe awaits painting in the Oxford Blue and White Navy Livery. ✈

[5] View from the copilot's seat, as a Kiowa approaches Moresby's deck. By now the deck markings had been modified to "USN" approach standard (rather than the RN one), with a fore and aft approach line down which the pilot flew. ✈

[6] Operations from Moresby always guaranteed varied and interesting flying. Here, the ship's helicopter recovers a dinghy by the novel method of towing it - not something RAN aircraft did very often and probably well outside approved procedures. It would appear to be hooked onto the winch. ✈

The Soviet Space Vehicle Episode

On On 16 March1983, HMAS *Moresby* was in the Indian Ocean about 300 nm south of the Cocos Islands, to observe the recovery of an unmanned BOR-4 orbiter - a Soviet space vehicle similar to NASA's space shuttle. Soviet warships and recovery vessels were in the area for the splash-down which had been under observation for several days.

A vapour trail was seen by *Moresby* as the space vehicle entered Earth's atmosphere. After the splash-down Soviet personnel attached floats to the space vehicle, which was then lifted onto a ship. During the four-hour recovery *Moresby*'s Bell 206B-1 helicopter and a RAAF P3C Orion photographed the operation, prompting Soviet authorities to conduct future space missions in the Black Sea (read details in Tony Reyne's story later in this document).

Operation 'Morris Dance'

In May 1987 following a military coup in Fiji, the landing-ship heavy, HMAS *Tobruk* (II) with other RAN ships and an RAR contingent stood off Fiji should Australian nationals need to be evacuated. *Tobruk* had embarked landing-craft, motor vehicles and five helicopters. One of the helicopters was a Bell 206-1 Kiowa (A17-034), an Army Kiowa on loan to the RAN still in camouflage colours but with low-profile skids. Fortunately, the situation in Fiji quickly stabilised and the ship returned to Sydney on 12 June. This was the only occasion a Bell 206B-1 was embarked on a RAN ship deployed on Operational Service.

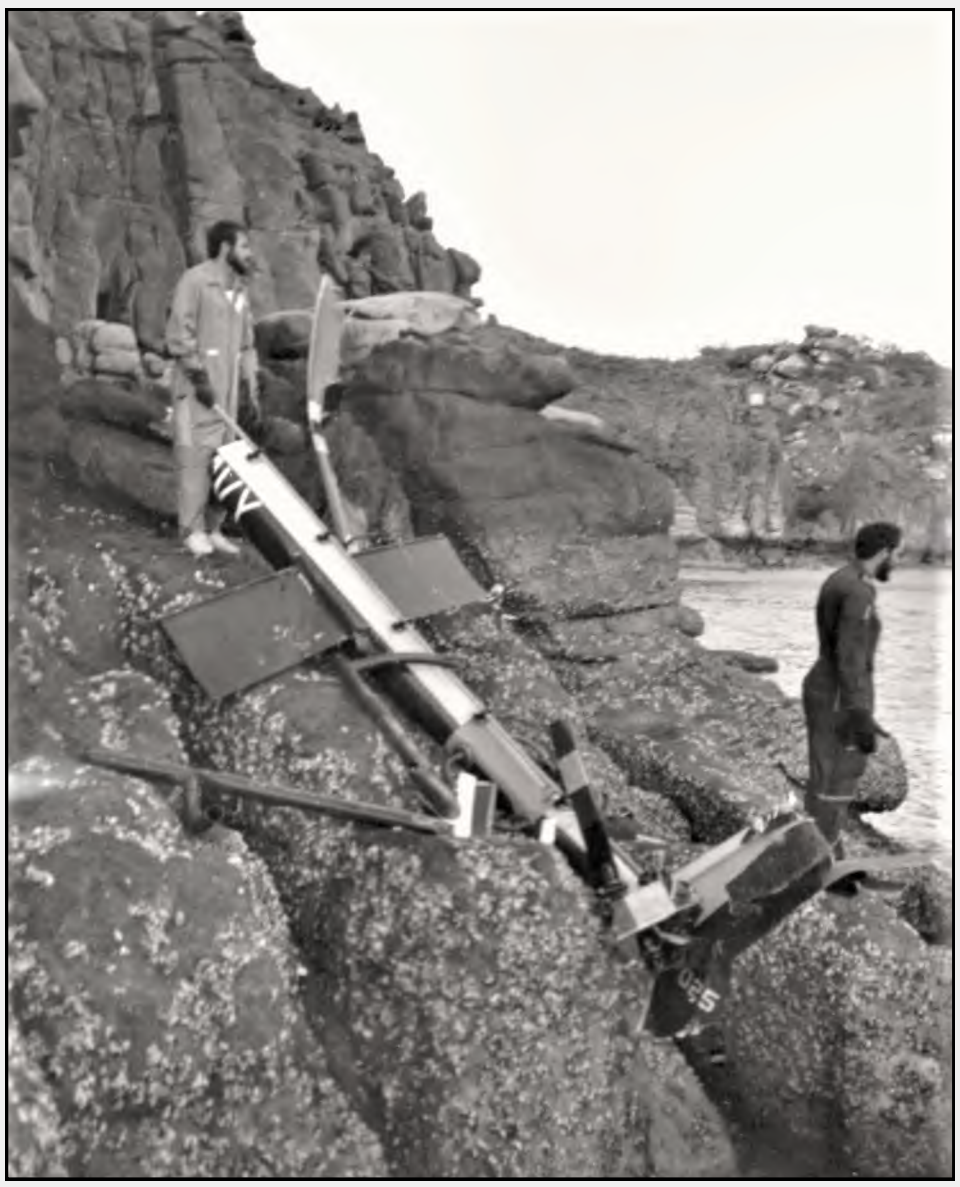
Mishaps

On 28 July 1977 *Moresby*'s Kiowa N17-025 crashed on Sunday Island, at King Sound NW WA. A surveyor, who was being collected from a cliff top, unbalanced the hovering 206B causing a rotor blade to strike the cliff face. The helicopter then fell some 30m onto rocks below. Thankfully everyone escaped with minor injuries, but the wrecked Kiowa was soon swept away by the tide, with fragments later found 25km away at Cygnet Bay. A replacement 206B-1 joined *Moresby* at Fremantle the following September.

After completing a survey at Gibson Point in the Admiralty Gulf, WA, Kiowa N17-006 suffered an engine defect on 14 April 1986 while approaching *Moresby*. The 206B-1 lost power at a height of some 30 metres and crashed into the sea. The aircrew were rescued uninjured by *Moresby*'s motor boat and the bulk of the Kiowa, minus its rotor and transmission, was recovered by the ship's crane. A replacement was embarked on *Moresby* the following month.

McNicoll Trophy Award

In the early 1980s, *Moresby*'s Kiowa was busy surveying the rugged, remote Joseph Bonaparte Gulf region of NW Western Australia - so gaining the McNicoll Trophy was unexpected. Although credited to 723 Squadron (the Bell 206B-1's parent Squadron), it was due to the efforts of the *Moresby* 'Flight' that the prestigious McNicoll Trophy was awarded for 1981-82 and again in 1982-83. The McNicoll Trophy, established in 1968, is presented annually to the RAN FAA squadron with the best performance in all areas of aviation.



The RAN Strategic Shift to Helicopters

The RAN FAA disposed of its fixed-wing assets in the early 80s and began operating helicopter Flights from aviation capable small ships and supply vessels. Instead of fixed-wing Squadrons operating from an aircraft carrier, helicopters were embarking on FFG frigates and other ships with helicopter decks. These helicopter 'flights' became a vital part of the ships operational and weapons system, leading to a different approach to crewing and maintenance procedures.

Top. *HMAS Moresby shadows a Russian Kashin class cruiser engaged in recovering a Soviet space vehicle near the Cocos Islands. You can read the full story later in this document.* ✈

Middle. *The remaining fragments of Moresby's Helicopter on Sunday island. It had been conducting survey work when one of the ship's company leapt aboard, causing lateral imbalance. The rotors struck the cliff face and the helicopter fell some 30 metres onto the rocks below. Astonishingly, no serious injuries resulted.* ✈

Bottom. *One of the very few instances of engine failure occurred in April of 1986 to N17-006 when Moresby's Kiowa lost power on approach to the deck. A successful ditching followed before the airframe was recovered, and eventually returned to flying condition. The aircraft subsequently survived the remainder of its Navy time and was returned to Army in 2000.* ✈

In 1984, Bell 206B-1 (N17-013) completed short-term embarkations on the FFGs HMAS *Adelaide* (II) and *Sydney* (IV). The Kiowa played a crucial role in preparing aircrew, maintainers and ship's company, paving the way for when the Sikorsky S-70B-2s embarked on the FFGs. Initially some technical hitches arose which took time to resolve, while other points benefitted from helicopter experience gained on HMAS *Moresby*. Early in 1985 the AS350 Squirrel replaced the Kiowa in this role.

Meanwhile, at Nowra, due to the growing demand for helicopter pilots during the transition period, 723 Squadron's 206B-1's were used for helicopter and ASAC training. Experience with the 206B-1 helped both aircrew and the ships' companies develop the particular skills of operating small Flights autonomously for long periods of time.

Bell 206B-1 FFG Trials Begin

The aim of embarking the Kiowa on HMAS *Adelaide* (II) in May 1984 was to give personnel operational experience on small ships. *Adelaide* was one of the new FFG frigates equipped with a helicopter deck capable of carrying two Sikorsky Seahawk S-70B-2s. The first step for N17-013 was to obtain a 'Ship Helicopter Operating Limit' (SHOL) clearance which determined the flight envelope for the Bell 206B-1 Kiowa to fly to and from Adelaide-class FFGs.

Even though the Kiowa was never designed for shipborne operations, her role aboard Moresby had been deemed acceptable as the survey ship was typically in coastal waters and the helicopter was only cleared for benign daylight-only operations.

Embarking on a frigate was a completely different proposition.

It was brought about by necessity: with the demise of the RAN's only aircraft carrier and the fixed wing element that went with it, the Fleet Air Arm was forced to a regime of small-ship helicopter Flights. But the Sikorsky S70Bs bought for the task were yet to arrive and there was a desperate need to get airframes to sea to gain expertise and experience. It fell to the Kiowa to forge the way, followed shortly thereafter by the Aerospatiale AS350 Squirrel.

Here, 892 lands aboard HMAS Canberra, a "Flight 1" frigate with the shorter flight deck and obstructions to its after end. Eventually all the FFGs were modified to "Flight 3" status, with a longer deck and the bollards and other potential hazards recessed to the stern.

*You can read the story of the transition **here**.* ✈

Deployed on an interim basis, N17-013 was used because the new AS350B training helicopters were unavailable, and the Seahawk S-70Bs were not due until later in the decade. This gave aircrew and maintainers valuable experience, with time to refine operating and maintenance procedures. It also allowed the ship's (non-aviation) personnel to become familiar with flying operations, and learn how a helicopter could increase the ship's warfare capability.

An important task on *Adelaide* was to develop tactics and cooperation between the aviation and non-aviation sectors of the ships company. Helicopter operations on a warship are potentially dangerous, requiring meticulous training to avoid risks. Pilots must be aware of wind direction, turbulence, sea state, and the helicopter's limits. Personnel on the bridge must position the ship so its speed and direction will give the pilot the best operating conditions, and certainly within the SHOL envelope. Achieving this involves training, experience and currency training. With this done, *Adelaide* was ready for deployment to Hawaii for Exercise RIMPAC '84, a large US-led maritime exercise

The Bell 206B-1 Flight on *Adelaide* lasted three months which included exercising with Australian, Canadian, New Zealand, Japanese and United States navies. Besides RIMPAC '84 *Adelaide*, in company with other RAN ships, visited Norfolk Island, Tonga, the Cook Islands, Nauru, and the Solomon Islands. The result of the trial with the Kiowa on *Adelaide* was that much was learned from the experience. On completion the Flight disembarked to NAS Nowra in July 1984.

The following month N17-013 embarked on HMAS *Sydney* (IV) with the similar aim of familiarising pilots and maintainers with shipboard operations, including exercises with the ship's non-aviation personnel to develop and hone skills needed for efficient helicopter operations. By late August, however, AS350 Squirrel helicopters were able to take over the shipboard training and the Kiowas were withdrawn from FFGs.

Farewell The Bell 206B-1 Kiowa

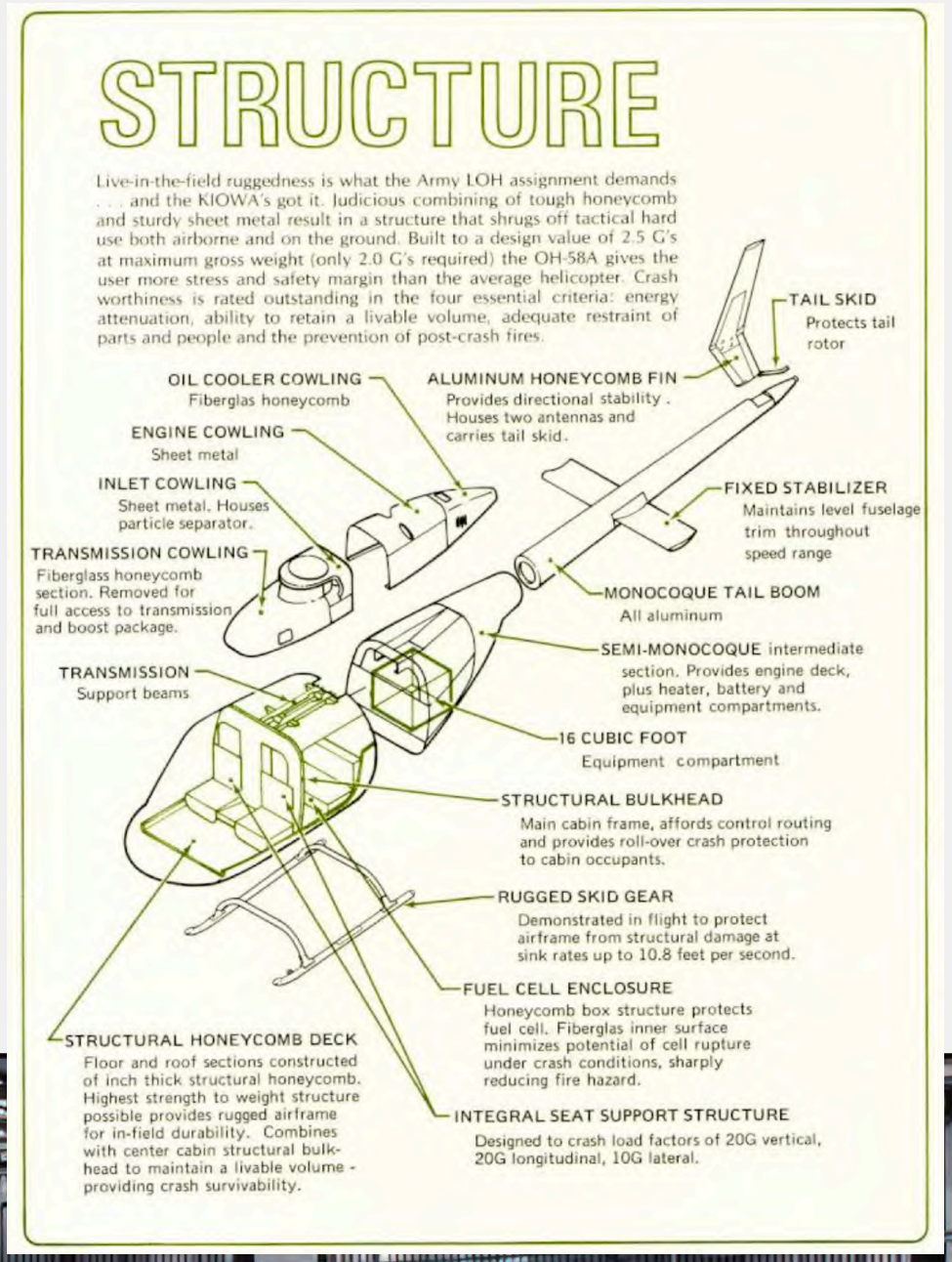
In May 1984, 723 Squadron received the first of six new AS350B Squirrel helicopters as its lead-in aircrew trainer, with units embarking on the Adelaide Class FFGs until the S-70B-2s arrived. Meanwhile, the Kiowas continued to operate from *Moresby* until the ship decommissioned in November 1997.

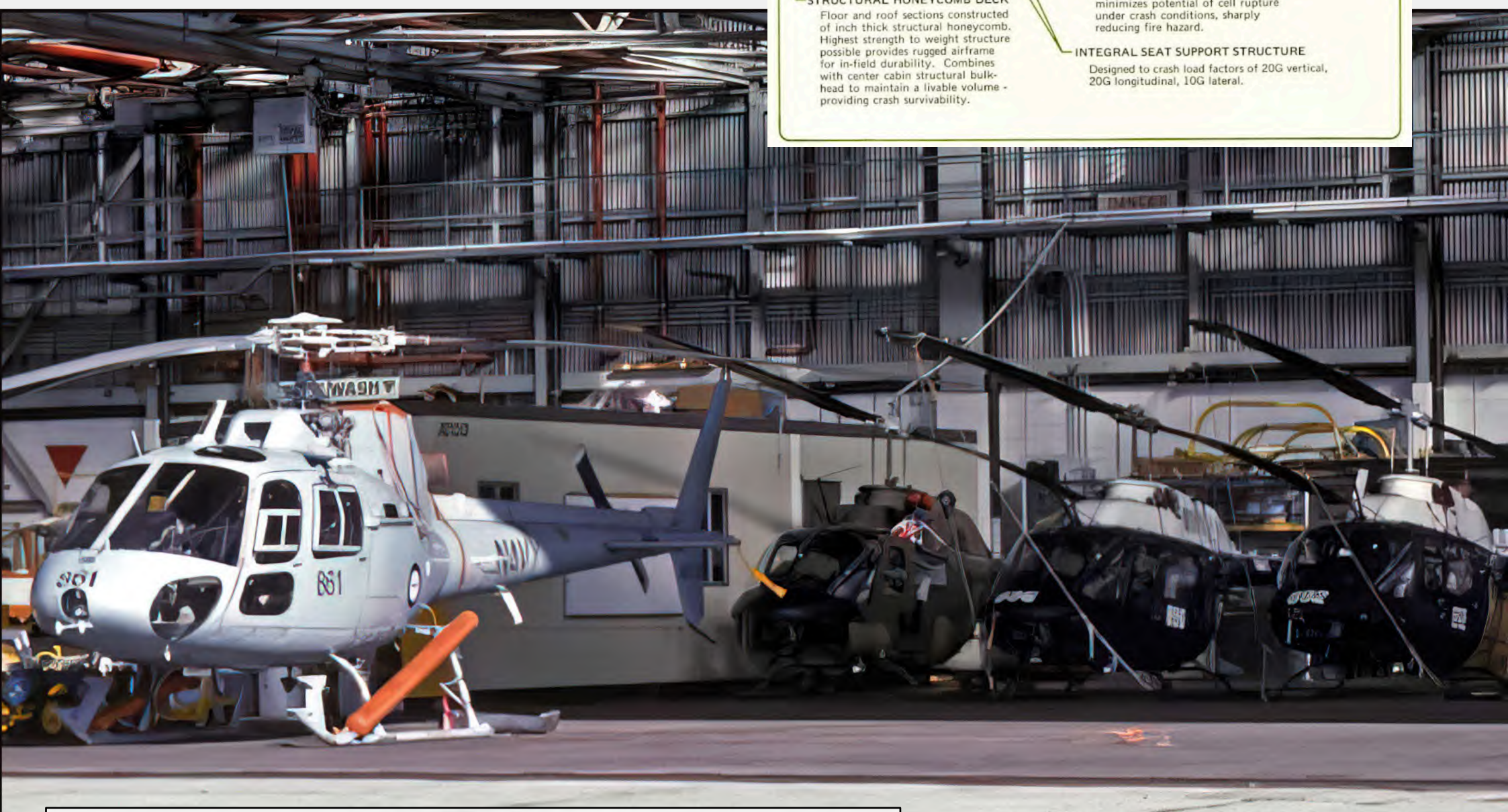
By now the 206B-1s were showing their age and with the loss of their Survey support role they became redundant. [Note: Satellite photos and GPS changed the nature of mapping – however later RAN survey ships continue to use helicopters for specific tasks].

In October 2000 the Kiowas were phased out of the RAN and returned to the Australian Army. RAN maintainers loved them for their reliable performance, simple design and easy servicing. Pilots remember it as an excellent work-horse and fun to fly.

Post Script: N17-013 at the Fleet Air Arm Museum

In late November 2013, N17-013 was retrieved from the Australian Army Aviation at Oakey Qld, placed on a truck and delivered to the Fleet Air Arm Museum at Nowra, NSW, where it was repainted in RAN colours. Although some parts are missing the Kiowa is now on display at the FAAM. N17-013 was the first Australian made 206B-1 built by the Commonwealth Aircraft Corporation as the CA-3. After a short time with the Australian Army in October 1973 it became the RAN's first 206B-1. Former Australian Army Kiowas may be seen at several air museums in Australia. ✈





The arrival of the AS350B Squirrels in mid 1984 provided not only a shore-based training helicopter but also the opportunity to embark them as small ship Flights. Up until then, the Kiowas had provided a stop-gap capability, but it was really unsuited to the role. In the somewhat symbolic image above, Squirrel 861 takes the spotlight as the Kiowas recede into the background. They continued to provide support for HMAS Moresby but never went to sea on a fighting ship again. (Image: Paolo Rollino Photography). ✈

Bill Huntress

REMEMBERING THE KIOWA

After serving with the United Nations in Ismailia, I returned to NAS Nowra and my parent rotary wing squadron in early 1979. Luckily my squadron CAA at the time, Tiny Warren, recognised my skills and had me posted to Army base Oakey for a blade tracking course. On completion I returned to Nowra and assisted with maintenance on Kiowas and Iroquois to ensure a smooth ride.

My training at Oakey centred on how to use the blade tracking strobe equipment. With two bladed helicopters, such as the Kiowa 206B-1 and Iroquois used by the RAN Fleet Air Arm, a plate was mounted on the blade tips with a reflective horizontal and vertical tape and after setting parameters on the blade assembly on the rotor head, a ground run determined stability by pointing a strobe light gun at the blade tips to see what appeared as a plus sign.

If this operation was successful a test flight would determine if the blades were “in track” if there was some vibration or other problem the helicopter would return to the pad and shut down. Small adjustments would then be made to adjust the blade pitch at the rotor head, then another test flight would follow to check for problems. Once deemed to be within tracking limits the aircraft could then be returned to full serviceability for normal flight ops.

A Kiowa on HMAS Adelaide (II)

Regarding the HMAS Adelaide (II) FFG-01 embarkation. This was a pioneering deployment in the history of the RAN FAA. At the time the RAN didn’t have a helicopter specifically for long-term deployment on board the FFGs. Not being involved in decision making policies, I can only wonder about the planning that went into embarking a Kiowa on a warship for three months. Previously the Wessex had been embarked on larger ships (HMAS Stalwart for example), and those flight and maintenance crews were larger with more space on the ship to accommodate them.

In the case of the Kiowa 206 on Adelaide, the maintenance crew was streamlined to enable the least number to be embarked, along with two pilots and an aircrewman. The actual maintenance schedule for the 206 was based on the RAAF system and hence there was less requirements for personnel numbers in comparison to the Wessex which was maintained by Navy doctrine - too complicated to explain here!

Prior to the embarkation a purpose built “dummy-deck” was erected on the extremity of the airfield at NAS Nowra. Here personnel were trained in aircraft directing and movements, landing, lashing down, fire drills, control tower ops etc. Flight deck crews were made up of various members of the ship’s company who spent a week at NAS Nowra doing this vital training before returning to their ships - all in readiness to receive “The Birdies”

Before Adelaide sailing for RIMPAC, extensive sea trials were conducted with the Kiowa off Jervis Bay until all boxes had been ticked and the work-ups were satisfactory for aircraft operations.

Team Work and Cooperation

During the deployment on Adelaide flying stations became part of daily life and everyone involved started to work as a team. The general service attitude changed from ‘Bloody Birdies’, as mail was delivered more regularly and the flying ops became talking points in the mess decks, fellow general service shipmates were envious of the tasks their mates were doing and vied for any chance to work on the flight deck.

Initially I was unpopular with some of our junior maintenance sailors as I insisted they were to take part in other duties on the ship, such as watch keeping, if there was a break in flying for any period of time. I did this to instil in them the importance of teamwork on a small ship and that was to include the general service sailors. It took a few weeks for the grumbling to stop and my insistence paid off in the end and this was evident a few times ashore when birdies and ‘dibbies’ would step [ashore] together - a huge milestone in my book!

As I mentioned earlier, the Kiowa was a reliable aircraft and the deployment went off without too many problems and the tasks given by the CO of *Adelaide* were always met. Being the radio mech/ electrician/ armourer I only remember one fault with a UHF radio, which happened just before getting into Pearl Harbour.

I knew there was a US Army 206 squadron in the middle of Oahu so I

arranged to take the black box to their avionics section for a priority repair. I was given the captain's driver to take me and the box to the base, and upon entry was directed to their workshop. I walked into the reception area and was met by a sergeant and after explaining my problems he asked me to follow him to the store. Here he handed me a brand-new radio and grabbed my unserviceable one and threw it in the nearest trash can!

The RAN have a black box certification number called an AMRA number attached to the outer casings of all black boxes. Luckily I thought of this and retrieved the ditched box and swapped the cases over…no one was any the wiser! Within an hour I was back on board, tested the new item and stepped out to meet my wife in Waikiki.

A Moresby Airfreight Mission

I never served any time on HMAS *Moresby* Flight. At the time there were lots of good stories going around about a posting to the ship. However, to complete my maintenance experience I did a Kiowa changeover for the *Moresby* flight, which was at Fleet Base West (W.A.) and involved ferrying a Kiowa to RAAF Pearce. At NAS Nowra we loaded a fully serviced 206B into the back of a Hercules and ferried it to Pearce before reassembling it there and having it test flown. We then backloaded the old Kiowa for return to NAS Nowra where we carried out the necessary long-term maintenance for future replacement or local ops.

Looking Back

Perhaps the highlight of maintaining the 206 was my involvement in the first small ships flight embarkation on HMAS Adelaide (FFG), for Rimpac 1984 with Jim Llewelyn and Ian Sangston as drivers and a motley crew of maintainers,

Apart from the Kiowa being an invaluable asset to the ship's over horizon capabilities there was the importance of integration with the rest of the crew. I can honestly say that by the time we disembarked the 'Bloody Birdies' tag was put to bed as all members of the flight, junior and senior developed a good working rapport with the rest of the ship's company and were gainfully employed when not flying.

In all, maintaining the Kiowas was a memorable and very enjoyable experience.✈

Plugging the Navy's Aviation Gap at Sea

By Paul Folkes

Back in 1982, as a young Lieutenant, I was the Ops Officer for HC 723 "Bell Cell", with LCDR Mike Lehan as the OIC, later changed to HC 723 B Flight when Mike took over as CO. One of Bell Cell's main roles was ASAC training, for which we primarily used the UH-1 but also the B206.

This was the sad period following the demise of HMAS *Melbourne*, prior to arrival of the S-70B-2, and before the SK50 had deployed on small decks. Therefore, the RAN had no embarked assets other than the B206 on HMAS *Moresby*.

In Oct 1982, HC 723 was directed by the Fleet Commander to embark a B206 in HMAS *Stalwart* for support of the FC (RADM M. Hudson) and Fleet Staff during 'Exercise Sandgroper '82,' to be held off the coast of WA. I was chosen as the Flight Commander, SBLT Chris Tutin was the pilot, and CPO Ian Lockett was the FSMS. I don't completely recall the circumstances but Ian couldn't have had all the requisite quals because LEUT Col Allen also joined the Flight as the engineering and maintenance authority. LS Beck, and ABs Wilson, Cameron and Starrett made up the remainder of the team.

On 27 Oct 1982, 'Stalwart Flight' embarked in HMAS *Stalwart* (CAPT Salmon, brother of the birdie) in Sydney Harbour with Bell 206B-1 side number 896. When we embarked, *Stalwart* was undergoing an Operational Readiness Evaluation (ORE) overseen by Fleet, and the 'Flight' was at Alert 5 to provide support. At the pipe "Action budgie", I raced to the bridge for a brief while the rest of the team got the aircraft ready to launch.

To my surprise, there was no tactical sortie needed - the senior officer running the ORE (a birdie but no names here) simply wanted to go flying and do some DLs. Despite me trying to explain that the 'Flight' pilot was not an instructor, nor should I be authorising such a flight, the pressure from a CDRE on a young LEUT was intense and so he got his flight.

I learnt a lot from that experience! Later in my career, I often used that incident when I presented to Flight Commander courses about the challenges in dealing with senior officers in an embarked environment.

Fleet had decided that HMAS *Moresby's* 'Flight' would also be seconded to *Stalwart* for the exercise and so, somewhere around 20 Nov 1982, *Moresby's* B206 arrived onboard, under the command of LEUT Tony Reyne. Now *Stalwart* had the entire embarked aviation assets of the RAN. Operating two B206's off *Stalwart's* deck required a bit of juggling but we managed to do it safely.

One funny moment from this period - during the exercise, *Stalwart's* two budgies were tasked for a dawn surface search in conjunction with an SH2F Sea Sprite from USS *Francis Hammond*, hoping to catch an O boat snorting before approaching the force. Strung out line abreast at our visual limit, we all headed west, thinking that the Sea Sprite would be keeping an eye on us all. After reaching the western edge of our search area (by my calculations) but still pointed for South Africa, I informed the Yank that I thought we were getting near the edge of our area. His response "Ah, sir, what y'all using for your nav?" Me - "a USN Mk6 plotting board". Him - "Right, we'll follow you!"

After a quick trip back across the Bight, the aircraft disembarked from Flagship Stalwart on 07 Dec 1982 as she sailed past JB, with the maintenance team returning home once she got alongside in Sydney. A short vignette in the history of the B206 in RAN service - but one that plugged a gap in Navy's ability to get aviation assets to sea. ✈

The majority of work for the helicopter aboard Moresby was sling loading, which became bread and butter for the Flight.

The hook capacity of 1500 lbs provided a useful load, sufficient for smaller pallets, such as drums of fuel or building materials. Each would be hooked up to the aircraft in the hover after first discharging any potential static-electricity potential between the aircraft and the ground.

Loads would be then flown to the designated spot and released by the pilot on the command of the aircrewman, who would keep an eye on its stability and the suitability of the drop-off area.

Unstable loads were occasionally a problem, where significant forward or lateral oscillation might develop. Noting the load could be almost half the weight of the empty aircraft this could rapidly develop into a flight risk, and if gentle persuasion to control it (by imposing positive 'g' or reducing speed) didn't work, then the last resort was to jettison in flight.

Over its life, the B206 carried hundreds of tonnes of stores and proved itself to be a hardy little workhorse. ✈

Derek Frew

THE RAID ON LEARMONTH

On 7 August 1984 Bell 206B-1 N17-013 (side number 892) was embarked in HMAS Sydney (IV) for a 3 ½ month deployment "Up Top" with an RAN Task Group. LEUT John McCormack, the 'Flight' Commander and Observer was accompanied by the pilot LEUT Derek Frew. The Flight maintenance team of four was CPO Chris Fitzgerald with LSATA Bruce Tarvit, LSATC Bob Bolton and ABATA Lawrence 'Laurie" Stubbs. A great bunch of guys.

After a successful deployment to Indonesia, the Philippines, Japan and Singapore we joined up as part of Orange forces for 'Exercise Sandgroper '84' The Blue force included USAF F-16s, USN P3s and RAAF Mirage and P3 aircraft based at Learmonth tasked to harass the opposing force, i.e. us.

As part of the attacking force SYDNEY's role needed some creative thinking. The Orange forces split into two groups with most of the ships heading straight towards the coast while SYDNEY stayed further west. The intention was for us to stay away from the coast until south of Learmonth and then approach the coast from the south-west.

SYDNEY managed to evade detection all the way south. We had had RAAF and USN aircraft fly near us, but we weren't challenged. Our confidence was building.

As we approached the coast south of Learmonth the ships PWO asked if we could simulate a civilian aircraft. His idea was we use the Bell 206 for a raid on the airbase at RAAF Learmonth to remove the threat to us posed by the Blue aviation force.

As the ship continued to avoid detection and maneuvered to a suitable launch position south-west of the RAAF base, the Bell 206 was given a cosmetic makeover. All indications of Navy were blanked out and a civil callsign was adopted to provide the necessary ruse for gaining access into the operational restricted area.

The crew for the mission, John and Derek, dressed in civilian clothing under our military flying gear, launched early on the morning of 16 October 1984 into a clear blue sky. We had two passengers, the ship's Supply Officer LCDR John Hill (who had been the pusser at the Harold E. Holt Naval Communication Station at Learmonth and knew the lay of the land) and LSATA Bruce Tarvit.

Remaining low level we quickly transited over land before contacting RAAF ATC indicating we were operating from a mining camp nearby and requested clearance to Exmouth. Clearance was subsequently given, and we flew to land at the small airfield just south of Exmouth township.

The CO of Harold E. Holt Naval Communication Station, the naval base at North West Cape, was CMDR Clive Blennerhassett, a Skyhawk pilot friend of John, so a phone call provided a Navy car to pick up our two passengers to launch our operation.

Posing as a potential recruiting team John Hill and Bruce gained entry onto RAAF Learmonth, and were given a tour of the facilities, including the flight line.

The flight maintenance team had made some simulated 'Orange' bombs by painting some blocks of wood Orange and wrapping them in brown paper with Orange bomb written on them. During John and Bruce's tour Bruce placed these 'bombs' in obvious positions in aircraft, the Ops Room and into the base mail system.

On exiting Learmonth the gallant invasion team saw a RAAF member coming back onboard the base. Thinking quickly they stopped the Navy car and asked the chap to give them a hand. They quickly bundled him into the car and told him he was being taken as a prisoner by the Orange forces. The fellow was a RAAF LAC who thought it was a great joke. When the car arrived back at Exmouth airfield where the Bell was now in its Navy colours we explained to him who we were. Following his agreement he was given a full safety brief, fitted with flight gear, and embarked into the aircraft.

Timing was important here and our departure from north of the airfield coincided with the return of a flight of Mirage aircraft from a sortie. After the Mirages had landed John called RAAF air traffic using our Navy 892 call sign. There was no immediate response and we thought they hadn't heard us. After a pause ATC asked us to go ahead whereby John read out a note written by the ship's PWOC, an RN exchange officer who had served in Northern Ireland during the troubles. The note was in the style of "The running crabs of the Blue forces have been taught a lesson by the freedom loving Orange forces" etc.

Having revealed our identity, we advised them of the location of all the 'bombs' we had placed before making good our escape at low level. John vividly remembers coming over the last sand dune to see SYDNEY sitting just off the coast on a beautiful blue ocean. We made a jubilant return to SYDNEY with the knowledge we had not been followed.

As we landed onboard the ship was playing Queen's 'We are the Champions' and the skipper had a tray of champagne and glasses for the four of us, and our 'captive.'.

The ships company took the LAC below and looked after him very well indeed. He thought the whole thing a great joke and thoroughly enjoyed the adventure.

While we were away and as SYDNEY approached Learmonth she was overflown by multiple RAAF and USN aircraft without being reported. Consequently, the ship simulated multiple missile strikes on the airfield.

The following day the LAC had to be returned to LEARMONTH. Due to the furore that had erupted it was decided that HMAS STALWART's Sea King, LEUT Ogden and SBLT Dalton, should return him to Learmonth. Unfortunately, when the Sea King landed the RAAF tried to have them shut down to be detained by the authorities.

It took some quick talking to convince the RAAF it wasn't them that had conducted the raid.

To our CO's dismay, the Fleet Commander wasn't happy, the ship and the flight were roundly "bollocked ". This was a bit of a surprise to us, as SYDNEY's PWO who had planned the raid was the Fleet Commander's son and he was sure his dad the Admiral would greatly appreciate the initiative shown.

In Fremantle, several days later the PWO in question invited us to dinner with his father. We had a very pleasant night, and he didn't appear too upset with us or our actions. In truth, we think the RAAF were so embarrassed they put pressure on the Fleet Commander to keep it quiet.

Thus the Battle Budgie Raid on Learmonth was completed successfully. *(With thanks for input from John McCormack).* ✈

Brian Abraham

FLYING THE KIOWA

A fiesty day aboard HMAS Moresby. Considering the Kiowa was a civil aircraft never designed for shipborne operations it fared remarkably well. ✈

The First RAN Kiowa 206B-1

Bruce Crawford and I flew to Laverton via East Sale on a Navy HS 748 flown by Owen Nichols on the 9th October 1973. At Laverton a Kiowa acceptance flight was made on the 10th (1 hr). On the 11th departure was made for NAS Nowra via Albury (1:45 hr), Cooma (1:15 hr), Nowra (1:20 hr). Our Kiowa serial A17-013 (later N17-013) was the first Australian built aircraft, by the Commonwealth Aircraft Corporation, the previous twelve in the series having been built by the parent company, Bell, in the USA. In total the Commonwealth Aircraft Corporation built 44 Kiowas. Eight other Kiowas were to serve in the RAN for varying lengths of time, A17-004, A17-005, A 17-006, A17-025, A17-032, A17-034, A17-049, A17-056.

Survey Flying on HMAS Moresby

On 05 February 1974, I flew Kiowa N17-013 from NAS Nowra, embarking on HMAS Moresby shortly after the ship departed Sydney Harbour. My first survey flight was off the south coast of Tasmania with its rugged coastline. This was followed by another survey, at Spencers Gulf in South Australia, for shipping to access to a new oil export facility at Point Lowly near Whyalla. This embarkation ran from 5th February 1974 with disembarkation on 11th April 1974.

The next embarkation was on 30th May 1974 for a survey covering Geraldton and Houtman Abrolhos Islands. 26th June the Kiowa flew to Kalbarri to search for the crew of a fishing vessel “Niobe Queen” which was wrecked on the Zuytdorp Cliffs. The three crew members had scaled the high cliffs and we spotted them walking south towards Kalbarri the following day and we picked them up. On the 3rd July the Kiowa was detached to Karratha for a local survey including Barrow Island returning to the ship on the 8th. Followed by disembarkation on 1st August 1974

The Abrolhos Islands visit was most interesting with its link to history still evident, including the forts built by the “Batavia” crew. With the aid of archaeologists from the WA Maritime Museum, items from the 1727 wreck of the Dutch “Zeewijk” were collected. Remarkably the site of the 1629 wreck “Batavia” was evident if one knew where to look from the air.

On Moresby the Kiowa was used primarily to set up the tide pole and Hi Fix camps on shore. They were staffed by a couple of survey people to record the height of tides and to tend the Hi Fix transmitters that provided highly accurate position fixing for the ship. Similar to the world-wide Omega system, the Hi Fix consisted of a master station and two slaves.

Shortly before I left Moresby the Kiowa was fitted with equipment necessary to fix its position using the Hi Fix. An operator sat in the rear of the aircraft and logged the positions while flying along a coastline, so as to accurately map the coast. Interestingly, some East Coast areas had not been mapped since that conducted by Captain Cook. It was surprising how accurate he was given the technology he had to work with, it even surprised the hydrographers.

About the Hi Fix Camps

The camps consisted of porta cabins, tents, generators, Hi Fix transmitters, antenna, tide pole equipment, with all the associated paraphilia, fuel, food, water, bedding, etcetera. All this was sling loaded ashore by the Kiowa and resupplied throughout the survey. Setting up and taking down a camp was a slick operation, overseen by the ship’s cox’n (forget his name unfortunately), everything had its weight tagged and the loads were made up to use the Kiowa’s lift capability to its fullest, without overdoing it.

While the cox’n was overseeing the operation the ship’s crew were unstinting in their efforts, at no time was the aircraft left hovering waiting for a load to be organised. The ship would be no more than one mile from shore, by the time you returned the next load was packed in the net and ready to lift. They all deserved medals.

Moresby Adventures

On one occasion, South of Tasmania, Moresby was sent to rescue a Japanese fisherman who had been seriously injured. The seas were extremely rough, with the inclinometer stuck on 30° but ship was rolling much further. Rendezvous with the trawler was to be early the next morning and it had us wondering how a transfer was going to be made with the conditions as they were. Miraculously, when rendezvous was made there was not a breath of wind and the sea was like a sheet of glass, not a ripple. Our ship’s Doctor was able to attend to the patient and on approach to Tasmania we were able to fly the patient to Hobart.

Two other Medivacs are noted in my logbook one involved flying to Hobart with an abalone diver with blood poisoning, the other was a lighthouse keeper from Maatsuyker Island who was flown to Hobart for urgent dental treatment.

On completion of the Tasmanian survey the ship sailed for South Australia where we had the opportunity to have an electric motor (for one of the anchors) repaired at Whyalla. The motor was damaged by water coming up the hawser pipe as the ship crashed through waves on its way to the Japanese trawler. At Whyalla the motor was sling loaded to the airport and dropped into the back of a ute for transport to the BHP electrical workshop for repair - my pre-Navy work site - if still there I may have been given the job to repair it.

More Kiowa Moves

Back at NAS Nowra, the Kiowa was only used for continuation training, very little flying was done between Moresby deployments. Except it was used for a crazy flying act at an air show which earned the displeasure of a senior officer who offered the pilot some future pathway options. I had hover taxied the aircraft to front and centre of the crowd, where another navy pilot was dressed up as a little old lady. I landed, throttled to idle and tightened down the controls, exited and helped the little old lady strap in. Before I could regain my seat the little old lady took off with me hanging below from the skids. After some gyrations at a low height I let go and dropped to earth where I stood shaking my fist, while the Kiowa hovered for a while in an out-of-control manner, before flying off leaving me to angrily stomp off through the crowd.

Kiowa vs Westland Scout

Regarding the Kiowa appearing to be less stable and more difficult to handle that the previous Westland Scout [which the Kiowa replaced], I’m not sure how people reach their conclusions. But my experience is the low rotor disc loading of the 206 did make it more susceptible to turbulence. However it was not an issue for a Navy pilot with a well-practised routine on Moresby. Granted those unfamiliarity with ship-board operations, and the confined space of the ship’s landing area, would need to be more cautious.

The Kiowa had a high centre of gravity and narrow skid gear when compared to the Scout but I never found it an issue operationally - having flown both aircraft in the role. Certainly the cabin lacked the space of the Scout, but it was never an issue in my time. The main purpose of the aircraft was for sling loading and the Kiowa could lift the same load as a Scout with a vastly reduced fuel burn.

The Kiowa – No Contest

If I were given the choice it would be the Kiowa every time, an engine failure in the Scout raised the blood pressure no end because of the very high descent rate and the lack of inertia in the rotor head/blades, it made for extremely unforgiving handling qualities when it came to executing the landing. The Kiowa was the complete opposite, you could do it in your sleep, well, not really but you get the idea.

The Kiowa was absolutely lovely to fly, with no vices, just a baby Huey, with the exact same control feel. Coming from the Navy UH-1 Huey the Kiowa was a delight with its instrumentation set up, with radios that you could actually tune to any frequency. In all I flew 210 hours in the Kiowa and absolutely enjoyed/loved every minute. ✈

Tony Reyne

MY TIME WITH THE BELL KIOWA

I enjoyed my time on HMAS *Moresby* flying the 206B, probably one of the best flying postings in the RAN. One memorable occasion was when we were was to HMAS *Stalwart* (II) the destroyer tender and RAN Flag Ship at the time. The seven-day transfer to *Stalwart* was for exercise 'Sandgroper 82' off the West Australian coast in November 1982. While landing I suddenly realised how tiny *Moresby's* flight deck was - as *Stalwart's* deck was like an aircraft carrier by comparison. Yet, despite *Moresby's* tiny flight deck and the Bell 206B-1 being small, they together pioneered many of the techniques adopted by the RAN for embarking helicopters on small ships and support vessels.

TOUCHING DOWN ON THE USS KNOX

While on *Stalwart* in November 1982, I was tasked to fly the 206B to USS *Knox* to MEDIVAC an injured USN sailor - I was told to 'winch him up' from the ship - not to land. When we got to *Knox* and saw the patient, who happened to be a well-proportioned African-American with his arm in a sling, we quickly realised we couldn't safely winch him.

To winch someone up to the Bell 206B-1 with its low skids is a bit of contortion act, as it requires the person on the wire to negotiate the narrow space between the skids and the side of the aircraft with a twist halfway through - not a good exercise for a large individual with an arm in a sling.

Fortunately, the sea was flat and calm, with no wind except what the ship was generating (less than 10kts). Compared to *Moresby* the flight deck on the USS *Knox* was huge. I got my aircrewman to 'con' me down to a low hover over the middle of the landing circle, and 'blow me down' we touched-down.

Well, seeing we were there, we got our passenger to walk out to board the Kiowa. We then flew him back to the doctors on *Stalwart*, for which he was very thankful, but I got a little slap on the wrist for the touch-down on *Knox*.

THE COKE MACHINE INCIDENT

On 4 October 1982 we were back on *Moresby* surveying off Lancelin north of Perth WA. Flying Operations were cancelled for the day because of a very rough sea state, with the ship well and truly outside aircraft operating limits. The ship was experiencing heavy pitching and large rolls associated with the high seas, rain and strong winds.

Mid-morning we experienced a particularly large roll followed by an emergency 'pipe' reporting an injury along the ship's central passageway. What happened was the large Coke machine had come adrift from the passageway bulkhead and had crashed into an unlucky sailor who was just passing.

The impact of the machine drove the sailor's face into a sound powered telephone on the opposite bulkhead causing a severe compressed fracture of the cheek bone. Now, the only person you don't want injured on the ship is the Medic, but as luck would have it the injured sailor was our one and only POMED.

The Captain was concerned with the seriousness of his injury and asked if it was possible to MEDIVAC him off the ship to Perth. I responded that if the boys could safely get the aircraft on deck I would be able to launch.

CPOATA Baker with his team did a great job in safely getting the Kiowa on deck and firmly lashed down. They did it with the flight deck safety nets up and positioned the aircraft right forward in the deck circle rather than the normal central position. They lowered the nets but left the forward most two on either side up for added protection for the deck crew.

Myself, POA Graffham and the POMED boarded the aircraft, this time with the doors on. It was a normal requirement for the Bell 206 over water operations to have doors removed, but in light of the serious injury to the POMED and the wet/windy weather conditions we kept them on.

The Captain gave the best ship/sea course he could trying to minimise the large pitch and roll the ship was experiencing. The first hurdle was getting the helicopter started and rotors engaged in the strong gusty wind conditions which we achieved successfully with some rotor blade sailing. Next was the launch where we used the proven *Moresby* technique, where the four Lashing Crew members came out to the aircraft and stood by the tie-down points.

***Below**. Over the time of its operation the Navy used nine Kiowas (see airframe details on final page), although generally not more than five at a time. All were acquired from the Army, who 'owned' the full fleet. Navy operated Kiowas were usually painted in an Oxford Blue/White livery, but occasional short term loans retained their camouflage paint scheme and even the "Army" moniker on the side.* ✈

When the Flight Deck Officer (FDO) got a green light from the Bridge, it meant the ship was on steady flying course. Meanwhile, the pilot was watching the ships motion and oncoming sea, when he was OK to launch a dip of the head to the FDO indicated he was ready to go. Straight away the FDO directed the Lashing Crew to unleash the aircraft. The pilot counted all four lashings were clear as the deck crew moved forward, and he then lifted the aircraft from the deck. All this happened in about 5-10 seconds.

Safely airborne we made landfall at Lancelin, then followed the coast south to HMAS *Leeuwin* at Fremantle. After our departure *Moresby* advised us that they didn't want us back that day. Apparently, after we had taken off, the ship was hit by a huge wave which engulfed the flight deck and nets. Glad I wasn't there when that happened: somebody was watching over us.

We delivered the POMED to *Leeuwin* where he went off to hospital and we continued to RAAF *Pearce*. The place was fairly quiet when we arrived so we parked the aircraft in the lee of a hangar, out of the wind, and retired for the night. Next day we refuelled the aircraft and had an uneventful return to *Moresby*. Despite the stormy conditions on deck that day the Kiowa performed faultlessly, further evidence that even though the Bell 206B-1 was small, it was very reliable, tough pilot's machine.

THE SOVIET SPLASHDOWN

The saga for the USSR Space Shuttle splashdown started the end of February 1983. *Moresby* was recalled from the Survey ground around Esperance (WA) to Garden Island, (Fleet Base West) for what was called a "Fleet Support Mission." We were back at GI for just under a week to effect some engine repairs (throughout its life *Moresby* had problems with its three diesel engines). *Moresby* not only restocked at GI but we also embarked some 'Spooks' with their electronic equipment. They took over the large Chartroom, classifying it and barring entry to all, even the Captain who could only enter via invitation. Everything was very 'hush, hush.'

We sailed for the Fleet Task around 5 March 1983 and once underway were briefed where we were going and what we were going to do. *Moresby* was to sail into the Indian Ocean between Christmas and Cocos Islands to witness the splashdown of a Soviet flying space shuttle. They said there would be a number of USSR ships (including warships) and helicopters involved with the shuttle's recovery.

Moresby was to be the only RAN ship on station with the RAAF operating P3 Orion aircraft surveillance missions from Cocos Island. Citing evidence from Soviet cold war tactics in the Northern Hemisphere, they briefed we could encounter possible aggressive behaviour from the USSR ships, including bumping ship sides and flare firings, something to which we were not accustomed. We were told in no uncertain terms that we were not to respond in any way. They believed because *Moresby* was a 'white ship' it would be less threatening than a' grey warship'; hence it quickly dawned on us the little Bell 206B-1 Kiowa was going to be the main intelligence gatherer.

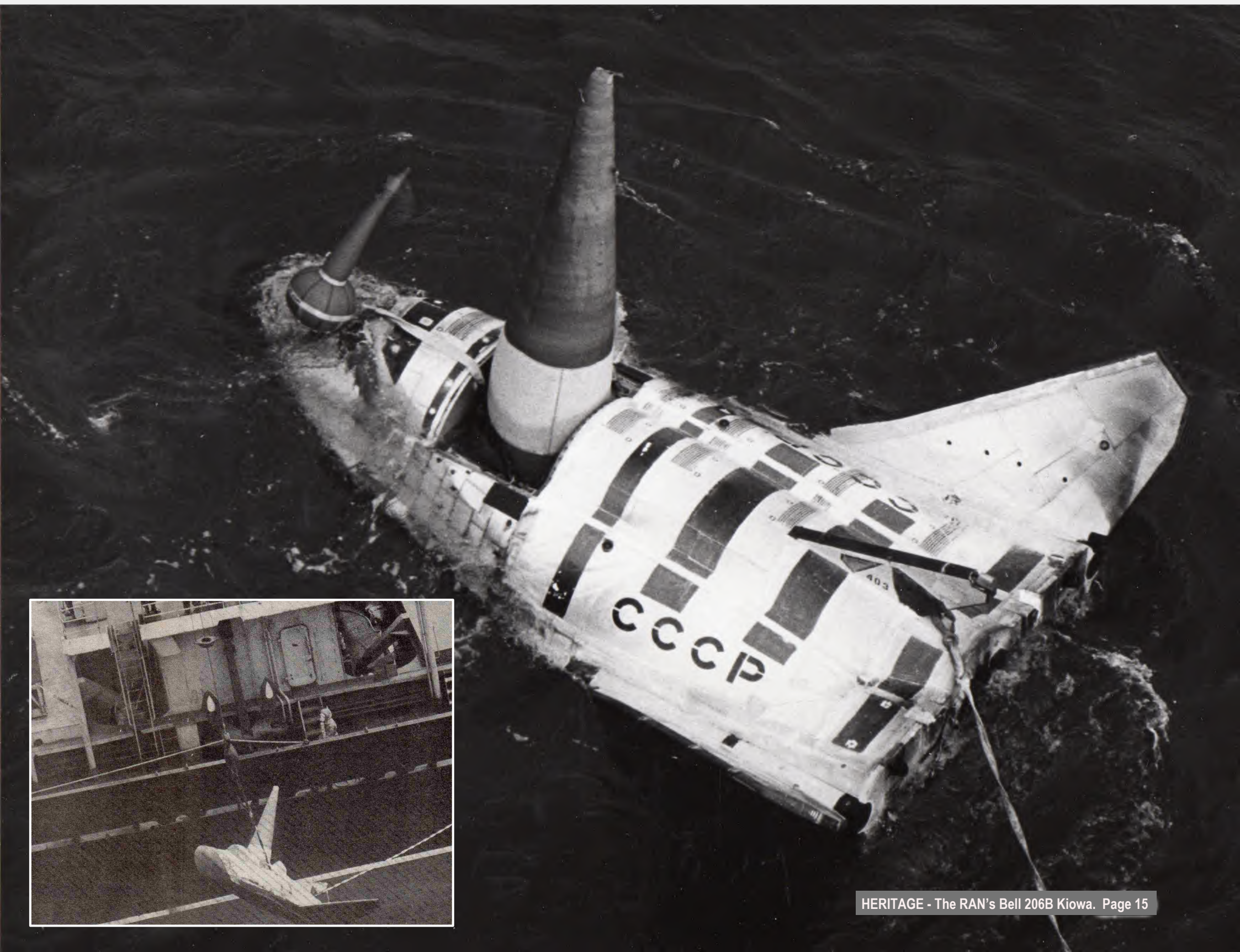
Our First Surface Search

We flew our first task on 8 Mar 83, which was a long-range surface search sortie to try and detect some of the Soviet ships. We flew 60 nm ahead of *Moresby*, 30° off the port bow, then right turn 60 nm perpendicular to the ship's line of advance, then back to *Moresby*. The sortie took 1.9 hrs (the Bell 206 had great endurance for a small machine, with four crew it could quite comfortably fly for 2hrs) all done on a plotting chart and Dead Reckoning. We didn't find any ships, saw a lot of the Indian Ocean and felt very lonely, *Moresby* was a most welcome sight on return, thanks to 'Mr Bell' for building such a reliable machine.

I had decided for all our tasking we would fly full crew, two pilots with myself as Captain, our Aircrewman and the Ship's Photographer. Our main sources of intelligence gathering were photography and witness accounts. To help with the latter we rigged up a method where our intercom interaction was recorded on a cassette recorder.

The Soviet Ships and More

Between the 9-15 Mar 83 *Moresby* joined the Soviet ships, initially the two Communications and Control ships followed by the three recovery vessels with helicopters and finally the two warships: a Kara Class Missile Cruiser with helicopter, and a Kashin Class Missile Destroyer. We flew surveillance sorties each day, sometimes twice, around their fleet to check out what was going on. The Kara's helicopter, a Hormone 'A' (Kamov Ka-25) was in a flying state when the ship arrived



***Main**. HMAS Moresby and a Russian Kashin Class Missile destroyer in waters off WA, during the recovery operation of the Soviet Spacecraft in early 1983. Not surprisingly the Russians were unimpressed by the RAN's presence, especially of the intrusion of the Kiowa. **Inset**. A close up of the Hormone-A (Kamov Ka-25) embarked in the Kara Class destroyer, that was also present. ✈*

on scene and we had some fun checking out the different performances of our machines. The Hormone could certainly out-climb and out-pace the little Bell 206 but was nowhere as manoeuvrable with Bell 206 easily able to turn inside the bigger machine and get on its tail. The Hormone also didn't like low speed out of wind operations, probably something to do with not having a tail rotor or perhaps operator skill level.

The Hormone 'Cs' on the recovery ships were not in a flyable condition when we found them, the Soviets taking a few days to get them to an airborne state. It might have had something to do with not being stowed in a ships hangar and having to remain on deck, whereas the Kara's helicopter had a hanger. Once flyable a Hormone C came for a flypast of *Moresby* and we observed their crew flew in 'stubbies,' T-shirts and sandals (civvies), while the Hormone A crew flew in flying suits (Navy). The Hormone C also had a large canister on the rear starboard fuselage, the purpose of which we would learn in the coming days.

Moresby came under close attention by the two Soviet warships with the Kara sailing alongside in almost a 'RAS' position, and the Kashin stopping dead across *Moresby*'s bow and questioning what we were doing there. *Moresby* did a U-turn explaining we were a survey vessel running lines undertaking a survey. I don't think they believed us. The RAAF P3 Orion would also over fly for their photography and surveillance missions, and were a welcome sight. We had also been briefed that we would know onboard the ship within 30 mins of the Space shuttle's launch in Russia, allowing us plenty of time to ready for its splashdown and recovery.

The Shuttle Arrives

D-day, 16 Mar 83, we briefed in the morning for the Shuttle splashdown. I don't remember much of the briefing except being asked to get lots of photos and if possible, ones of the shuttle in flight. They must have thought we had turbo boost. We got the OK to launch. The shuttle was on its way but we didn't have much of a plan or idea on how we were going to achieve the mission, as we had no idea where it was going to splash down.

As it happened the Hormone from the Kara also got airborne and climbed like a rocket up through the overcast cloud that typically occurs in the tropics at a few thousand feet. With nothing else to go on I decided to follow the Hormone up through the cloud which was only a few hundred feet thick. He levelled off and started tracking in a straight line at a high rate of knots, with us in pursuit as fast as we could go.

While following the Hormone I observed a manoeuvring con trail above us, obviously left by the shuttle, and got the phot to take some snaps of it. This meant the shuttle was down. Suddenly the Hormone did a 180° turn and came sailing back past us; we turned to follow but quickly realised he was probably returning to mother and we needed another plan. I decided to descend through the overcast and came out to see the five Soviet ships all tracking at speed to a central point - the two Navy ships with great rooster tails in their wake. I drew imaginary lines along the ship's directions, like the spokes of a wheel, and flew to the centre where we descended and found the model Space Shuttle in the water with a Hormone C hovering over it at about 100ft.

Photos and Flares

We hovered level with the Hormone while the Phot took his photographs, after which I decided to go down and have a closer look. We just came down to a lower height then all hell broke loose. We must have got a bit too close (Phot's camera was on infinity 50ft and the photographs were a little blurred), suddenly a bunch of flares rained down on us. We had found out what the canister on the Hormone's side was for, so I decided to bring the aircraft back up level with the Hormone on his port side reasoning he couldn't drop flares on us there. Next thing flares were again coming at us this time from the

aircrewman firing them from the rear cargo door. So, we flew up over the Hormone to hover on the starboard side, but now the co-pilot was firing flares at us from his position. I then brought the aircraft to the Hormone's 6 o'clock position reasoning they couldn't launch flares at us there. Suddenly two much bigger flares came up at us from our rear as one of the recovery vessels who had now come on scene was releasing large ship rocket flares at us.

I decided that was enough and withdrew ourselves away from the area. As we were departing the RAAF P3 Orion, who must have observed all this, acting like a big brother flew low over head and release a salvo of flares. No one fired any more flares after that. Apparently the P3 was flown by an US Navy exchange pilot and didn't take too kindly to what was going on. We continued to observe the recovery from a distance until after 1.8 hours it was time to return to Mum for some replenishment. All this time *Moresby* had been kept well away by the Kashin destroyer. On landing we inspected the aircraft for any flare damage but thankfully none was found. I don't think they were trying to hit us, just warn us off. They did come awfully close and flying without doors made you feel fairly exposed.

Refuel and Return

After refuelling we were airborne again to witness the Space Shuttle recovery from the water. The Soviets didn't seem to worry about us too much now - they just ignored us and just carried on with what they were doing. They used a boat to connect a recovery line from the shuttle to a ship's crane. The recovery ship then hoisted the shuttle and held it at deck level over the water while personnel hosed it down for at least 30 minutes. Then they brought it on deck where a guy in shorts, T shirt and sandals came out with a box and walked around as if sensing it. It was reported that the Soviets had used frogmen to recover the shuttle, but we didn't see any - in fact, we didn't see anyone get into the water at all. All the recovery was done by the boat crew who were all dressed in full NBCD suits, as were the crew hosing the shuttle down.

This makes me believe they were probably firing flares to warn us off as we were coming too close to the shuttle. I now suspect it was powered by some really bad "juice". The things we do in ignorance! After two hours we returned to Mum as our task was completed. We had flown 3.8 eventful hours for the day, and *Moresby* departed the area and returned to Garden Island. Over 13 days we had flown 14 sorties, for 17.2 hrs, in support of the Space Shuttle recovery mission. The Bell 206 was as reliable as ever, did not miss a beat and was well-suited for the task.

Apparently, everyone was happy with our efforts, and the contrail photographs in particular were very informative. A 'well done' was received from Defence, and even though I received a Fleet Commander's Commendation it was all the result of a team effort from everyone on board. Even though the Soviets kept *Moresby* away from the shuttle I don't think they knew how to fully deal with our little Bell 206m - so much so that subsequent shuttle landings were conducted in the Black Sea.

723 SQUADRON AND THE BELL 206

Three Bell 206s were held on 723 Sqn from the early 1970s for *Moresby* survey support operations. The aircraft was used to set up HF position fixing (ARGO) stations on land. This required numerous load lifts and personnel sorties, normally taking a day to establish a station, with up to maybe three stations being established at any time. During the ship's survey period the helicopter would then be used to support and resupply these stations, and on completion of the survey period the helicopter would help in de-establishing them.

As *Moresby* was only cleared for day flying, one of the 'perks' was to detach to shore to conduct night currency flying at a local airfield. This meant an overnight Motel stay, hire car and allowances, something the Supply Officer only did grudgingly as if it was his money. They didn't mind us bringing back the papers though. The Bell 206 was an integral part of the ship's operations, hence flying from her felt like doing a real job - not like a lot of military flying where one is practicing for a possible event. To be one of the few who flew from *Moresby* was a privilege, most satisfying and importantly, was good fun.

My ties with the Bell 206 continued after becoming a helicopter instructor and reposting to 723 Sqn accruing 1757 total hours (my 2nd highest total) and 510 instructional hours, including qualifying many *Moresby* pilots.

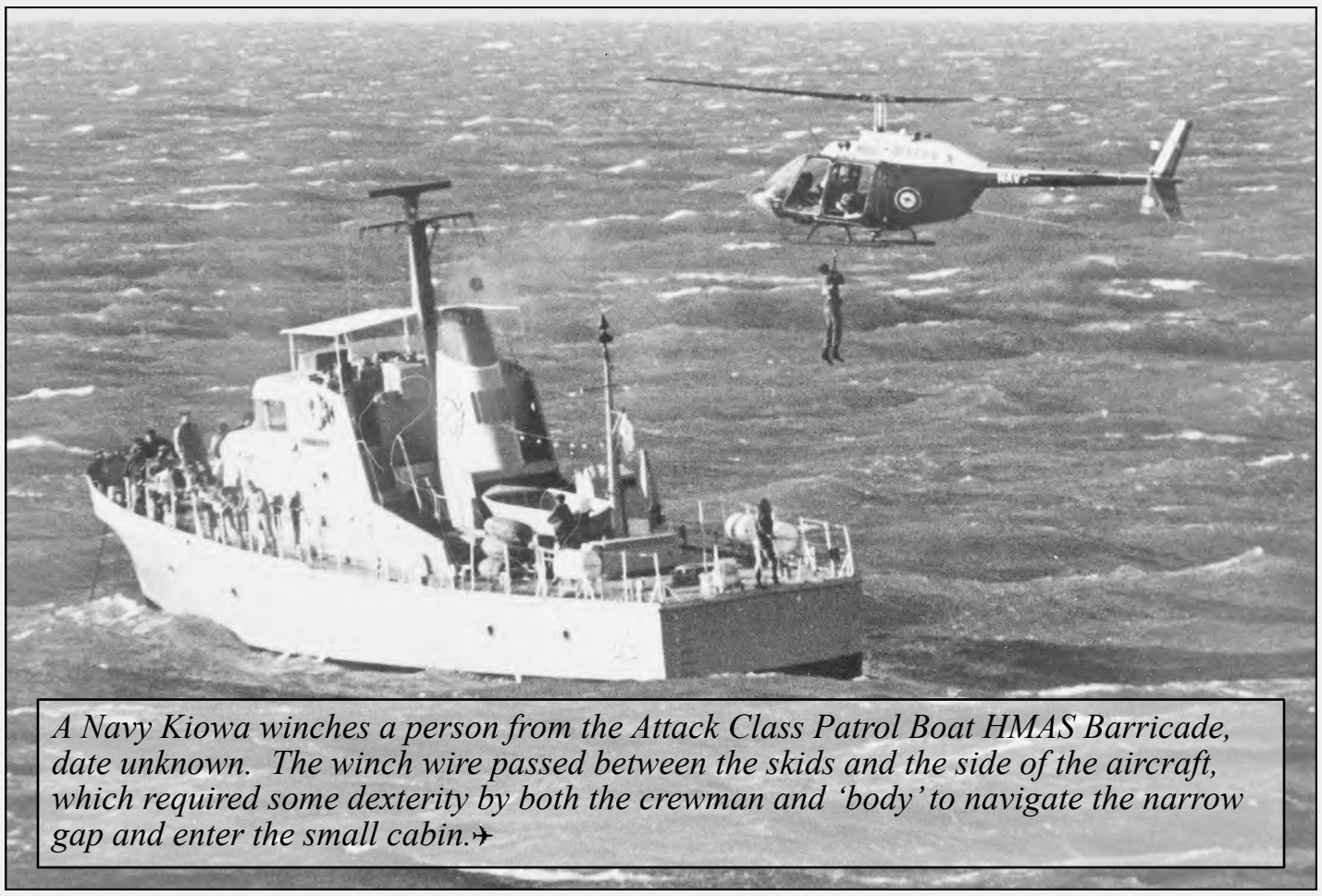
During the latter part of the 1990s the Bell 206 was also used to supplement pilot training for those waiting for posting to Operational Flying Training. 723 Sqn held quite a number of pilots awaiting OFT so the Squadron's complement of three aircraft was increased to six with the extras released by the Army. This allowed a number of pilots the pleasure of flying the Bell 206 and filled a vital role in keeping them airborne in the Fleet Air Arm after completing their Helicopter Conversion at RAAF Fairbairn.

One of my privileges as Senior Pilot on 723 Sqn was to lead the Bell 206s last flight in the Fleet Air Arm. This occurred on 5 Oct 2000 when we flew the six RAN Bell 206 in formation to RAAF Fairbairn and handed the aircraft to the Army, the end of good and faithful service to the Fleet Air Arm. ✈

Why Low Skids?

The Kiowas operating on *Moresby* were always fitted with low profile skis, which considerably reduced the overall height of the airframe in order to fit in the ship's hangar. The Army, who provided all of Navy's Kiowas, always used a custom high-skid modification, however, which provided better ground clearance operations in the field. So where did Moresby's low-skid concept originate?

It appears to have been the brainchild of an RAAF Aeronautical Engineering officer who was posted to the Army in Queensland for several years to look after Kiowa maintenance and airworthiness issues. He advised in April 1973 he was a passenger in A17-013 which flew from Amberley to ARDU (Laverton) where he had arranged for a set of low profile skids to be fitted, ready for the first tests on HMAS *Moresby*. This was apparently done without authority and he later reported he was pleased there wasn't an accident as he didn't want to have to pay for the skids! He was not directly involved with the flight deck test but visited *Moresby* at G.I. when it reached Sydney. ✈



A Navy Kiowa winches a person from the Attack Class Patrol Boat HMAS Barricade, date unknown. The winch wire passed between the skids and the side of the aircraft, which required some dexterity by both the crewman and 'body' to navigate the narrow gap and enter the small cabin.✈

Brett Dowsing

HMAS Moresby - The Survey Navy

My time in the survey ship HMAS *Moresby* was amongst my most formative as a Naval officer and aviator, and amongst my most enjoyable postings. I think this is where I really learnt what being a professional aviator really meant; that your personal skills and those that you demanded of your team had reputational impacts and that if exemplified properly led to pride internally within your team. This then translated into *Moresby's* pride in the Aviation Department and more broadly in the Ship's reputation externally within the Navy.

I converted on to the Bell 206B-1 Kiowa during 1979 at HC 723 Squadron, NAS Nowra. I was still an Iroquois captain and second pilot on Wessex during this period. My Commanding Officer was LCDR Carl Daley, RAN who was a quiet and gentle man and highly respected for his personal example and professionalism both in his Squadron and more broadly across the Fleet Air Arm. Besides LCDR Daley, my instructors on the Kiowa included LEUT Ian Stanley, RN and LCDR Tony Baker, RAN.

I joined HMAS *Moresby* at Fleet Base West, Garden Island, WA on 24 August 1979. The Commanding Officer was CMDR John Compton, RAN and the Flight Commander onboard was LCDR Alan McKenzie, RAN. One of my classmates from *Creswell* was a hydrographer onboard, LEUT Geoff Geraghty, RAN. The ship was between surveys, replenishing and preparing for departure in a few weeks. As such, the Flight Commander was anxious to bring me up to speed for remote area surveying support flying prior to sailing.

My first few weeks in *Moresby* were spent flying around Garden Island landing in increasingly difficult confined areas, on beaches and on WW2 bunkers; doing normal approaches, practicing emergencies, carrying different loads externally and visiting RAAF *Pearce* and the civilian airfields at Perth. It was intense and LCDR McKenzie was uncompromising in ensuring high standards. I think this was because not only would I be part of his team but also I was due to relieve him as Flight Commander at the end of the upcoming survey – this latter aspect may have elicited an element of frustration due to a likely return to a non-flying job.

The surveys during my tenure in *Moresby* through to April 1981 pretty much followed the same pattern. They were in either WA or NT waters, lasted about three months with about a month back at *Stirling* in between and north during winter months and south during summer.

We would steam into the area of operations and spend the first week establishing the base camps for the survey launches, the tidal observation camps and the radio navigation stations. These were dawn to dusk flying operations for the Flight with internal and external load-lifting and passenger transfers. This required a high level of planning and organization to ensure these camps were established quickly and safely. Loads had to follow specific order and were calculated to maximum lift capacity of the aircraft. But operating in a new area, usually remotely and with a meaningful task meant that it was a satisfying time.

Once the camps were established and the navigational stations tested, the ship would commence soundings. This would involve steaming predetermined tracks, day and night, recording the depths and positions to contour the ocean on charts. The ship was normally engaged surveying the open ocean requirements while the ship's survey launches operated closer inshore and round the islands. Often the ship would return to re-examine areas of interest and also to take bottom samples.

During this period of the survey the aircraft would be used to resupply shore camps with fuel, personnel, spare parts and victuals as required. Sometimes we'd be required to transfer personnel between local transport nodes and the ship, transfer mail or spare parts, revictual the ship with some specific commodities or liaise with local authorities or owners for permissions in support of the

Fresh Air League Esperance survey support - Feb 81. Our base for a few weeks supporting surveys amongst Recherche Archipelago. Front L-R: SBLT Keith Champion, LEUT Brett Dowsing, POA Pete Cummings. Rear L-R: LSATA Phil Beck, POATWL Ian Lockett, CPOATA Col Liddicoat.

Main picture: *Keith Champion and Pete Cummings releasing a load near Torbay to the west of Albany - Jan 80.* ***Inset****: Short Finals to "Moresby International" - Joseph Bonaparte Gulf Sep 80.*

survey. We would also have to practice specific aviation skills that we could not maintain during our embarked time. This would normally involve disembarking for a day or two to the nearest town with an airfield. We would then normally do a series of flights to practice instrument approaches, night flying, emergency procedures and land navigation. Such disembarkations would normally occur at least once a month.

Sometimes the Flight would be engaged in supporting onshore surveys which might require installing large, masted flags on prominent high-points while the surveyors were also flown between these to do distance or angular measurements. This type of reactive flying was always fun and gave us exposure to parts of the coast that almost no-one else had the privilege to visit. For me this was particularly rewarding when we were plotting island chains such as the Monte Bello Islands off Western Australia's NW Cape, the Recherché Archipelago off Esperance and the islands near King George Sound of Albany.

Midway through a survey (normally about six weeks after departing from *Stirling*) the ship would spend an extended weekend at a regional port near the survey area. While this was ostensibly for rest and recreation, this was when restoring ship could take place and essential maintenance conducted. For the Flight this was largely when major maintenance was achieved if not completed when ashore for other duties or unable to be conducted when underway at sea.

Returning to the survey grounds, the Flight would be utilized returning personnel recovered from any of the camps and then we would return to the same routine as the ship took up its survey duties for the next six or so weeks.

At the end of the second half of the survey, the ship would recover the camps, survey launches and navigation aids and proceed back to *Stirling*. This passage was normally reserved for administrative duties and surveying equipment but occasionally the aircraft might get used prepositioning fuel drums or doing a quick surveillance of future navigation camp sites for future surveys. Sometimes the aircraft and Flight might disembark en-route and return to *Pearce* if entering a major maintenance period or swapping aircraft with the parent Squadron, *HC 723.*

My tenure in *HC 723 – Moresby Flight* saw me participate in surveys as follows:

a. Geraldton, Dongara, Abrohlos Islands WA – September – November 1979;

b. Albany WA – January- April 1980;

c. Joseph Bonaparte Gulf WA/NT – August – November 1980; and

d. Esperance, Recherché Archipelago WA – January – March 1980.

I was Flight Commander from December 1979 through to being relieved by a *Creswell* year-mate LEUT Tony Drover, RAN in early April 1981. The other Flight members over most of my tenure included SBLT Keith Champion (Flight pilot), CPOATA Col Liddicoat (Flight Senior Maintenance Sailor), POATWL Ian Lockett (Senior Avionics Sailor), LSA/POA Pete Cummings (Aircrewman) and LSATA Phil Beck (Airframe and Engines Mechanic). Divisionally, as Flight Commander I was also responsible for the Safety Equipment Sailor (LSSE Sam Summers) and the Photographer (LSPHOT Tony Fareso) – they also were key members assisting the Flight in flight deck duties during flying

It was not all work aboard, and the high morale of both the Flight and its integration with the ship's crew made for good social events. This is HMAS Moresby's Mess Dinner at anchor King George Sound in April 80 - a memorable event. The "Reverend" Dowsing will be called on to give "Grace.". Farewell for our XO, LCDR John Leech in centre rear.

operations. We were a tight knit group with a high degree of professional respect for one another. I certainly appreciated their individual and collective contributions to our successful achievements – we almost always met our flying program and achieved the ship's objectives.

Life in *Moresby* was similarly close-knit, interdependent and engaging. The ship spent long periods at sea – sometimes up to six weeks – before a break in a local port or in our home-port at *Stirling*. The commencement and end of a survey season was arduous but once the soundings started it was relatively benign. This was not unlike what I imagined the routine would have been in the old sailing ships. While boredom could become a problem, the one thing that seems to have united those onboard was the fact that there were tangible products that resulted from our time at sea, namely charts and Pilots.

The close contact and involvement in seafaring that emanated from the time at sea in *Moresby* also added a degree of elitism in all members of the crew, and this had a uniting bond amongst us all. It is certainly a feature of most units within the Navy, but I felt that it was probably stronger in *Moresby* than most other units that I served in over my career. We were doing "boys own adventures" in some of the most remote and beautiful coastal parts of Australia; we largely operated alone; we did a job that was highly specialist in nature; and we consistently spent longer than most other personnel at sea – we had fun. Boy, did we have fun!

Some of my fondest memories flying the Kiowa from *Moresby* relate to ship to shore or return flying. Operating from the flight deck of *Moresby* was a challenge as the ship had no stabilizers, the deck slopped upwards towards the stern and the Kiowa was a low-skid, semi-articulated rotor helicopter with relatively low power margins. We generally flew without doors and no back seating. There were no aircraft flotation, no GPS, good UHF/VHF comms but unreliable HF and limited navigational equipment. Passengers sat in the front port-side seat of the cockpit (luxury) or on a flat-board in the cabin with their feet resting on the aircraft skids – those in the cabin were restrained by a single fore and aft lap belt that went across both passengers either side of the cabin. It was thrill-seeker stuff but especially when flying low-level over the sea into headwinds or along the beaches.

At times we would also have to transfer personnel or equipment between the ship and its survey launches operating inshore or up rivers. This involved winching to mobile platforms and usually with minimal references, but this was for the most part a significant part of our repertoire.

Looking back over my logbook reminded me that we sometimes deviated from the norm. During one of our mid-survey breaks in port, our aircrewman got thrown from a mechanical bull during a pub visit and had to be hospitalized and returned to home-port for convalescence. As a replacement could not be afforded from *NAS Nowra*, we trained up our POATWL and utilized him as aircrewman for the remainder of that survey – he was pretty good and was somewhat miffed when relegated solely to ATWL duties when our aircrewman sheepishly returned onboard!

Likewise, for some of our long-distant flying when we were purely carrying an internal load strapped down in the cabin, the aircrewman would fly in the front left-hand seat. During these times we would train him in basic flying skills under the pretext that if the pilot was suddenly incapacitated, the aircrewman could put the aircraft down in a benign environment thus optimizing chances for survival. LSA later POA Pete Cummings became relatively competent in hovering and landing over his posting to *Moresby*.

On return to *Stirling* in December 1979 following my first survey deployment the ship's commanding officer CMDR John Compton, RAN was relieved by CMDR Joe Doyle, RAN and I relieved LCDR "Mac" McKenzie as Flight Commander. SBLT Keith Champion, RAN joined as the Flight's second pilot – Keith and I did 101 Pilots Course together.

Being qualified with a Full Bridge Watchkeeping Certificate, I was introduced into keeping bridge watches during the transits to and from the survey grounds and during some of the day and night survey runs when the flying program would permit. I very much enjoyed this and learnt a lot from CMDR Doyle particularly when using the ship's sonar for investigating uncharted features or sounding anomalies. This was especially demanding when conducting these manoeuvres close inshore at night and combined with the precise nature of steaming the survey lines, certainly honed my seamanship and navigation skills.

Notwithstanding these extra-curricula duties, during my tenure in *Moresby* over 19 months I managed to achieve a little over 560 flying hours on the Kiowa of which over 470 hours were as captain. I achieved my 1000 flying hours during this period and over 500 deck landings. I met my future wife, Sonia, onboard during a visit to Albany; made some friendships for life amongst the ship's officers and crew including those of the Flight; and learned the challenges of being an aviator in a ship other than an aircraft carrier.

I left *Moresby* in *Stirling* on 3 April 1981 and after a week's local leave departed for *NAS Nowra* via Sydney on the Indian Pacific with my car also embarked. I joined HMAS *Albatross* additional for command courses before joining the Attack Class patrol boat HMAS *Buccaneer* in Cairns in mid-1981 and assuming duties as Commanding Officer from 10 July.✈

Stephen Swayne

Bell Kiowa Support on HMAS Moresby

I was a Hydrographic Surveyor and Officer of the Watch (Lieutenant) onboard HMAS *Moresby* during 1988-1989 and I was involved in flight operations on a regular basis when on the survey grounds.

At times I was the Officer of the Watch when flight operations were underway on *Moresby*. However, flying operations often occurred at anchor, when the involvement of the Bridge team was safety related with green and red deck control. These sort of operations were fairly easy for the pilots, with a stable and stationary deck.

At other times, the ship was underway either conducting survey operations or in transit from one location to another. The OOW would be required to orient the ship for favourable wind across the deck and then maintain a steady course and speed, and the helicopter would be either landing or taking off, or collecting or dropping off an underslung load. Underslung loads when the ship was underway could be hazardous, and on more than one occasion a load was jettisoned by the pilot due to loss of control of the swaying load beneath.

On one occasion when I was OOW such an event occurred. There was no video camera of the flight deck in those days. I was on the bridge wing and saw a huge splash after the pilot said he was in trouble. My initial though was that he had ditched astern of the ship. There was silence from the deck team on the intercom. I initiated an emergency Williamson turn, designed to have the ship in the best position for recovery of the aircrew. Then the helicopter came into view, foaming sea and strewn debris worth maybe $25,000 sinking to the bottom.

The pilot was rather ashen faced when he landed. It had been a close call, and it highlighted that although routine, dealing with several hundreds of kg of gear in netting slung beneath an airborne helicopter on a confined flight deck when the ship was underway was always potentially hazardous, for example: static electricity discharge, the load striking personnel or the ship, the load being jettisoned, or worst case the helicopter hard landing on the deck or blades clipping the superstructure were all potential risks. The ship's team and helicopter crews were thoroughly trained and the procedures were second to none in the RAN.

Lost Helicopter Incident

One of the many tasks I had when conducting surveying operations was travelling by the Kiowa helicopter to remote islands, islets, atolls and shore locations to reconnoitre or locate existing survey marks and assess the location for establishment of a radio transmission station for position fixing purposes. The Kiowa was flown with all the doors off, pilot and aircrewman, and Surveying Officer and Survey Recorder sailor, and the four of us would set off for the task.

On this occasion back in 1988 we were flying for around an hour from the ship to Dirk Hartog Island off the Western Australia coast. I had a fairly old document detailing the establishment of the survey mark many years earlier, its position in LAT and LONG, and a diagram of nearby permanent features in the landscape to help in locating it. We knew roughly where to look and the pilot looked for a place to land. The north western side of the island was sand dunes with low vegetation, and we needed a fairly flat area roughly twice the main rotor diameter to set down. The first place the pilot set down was too soft and the helicopter slid backwards on the skids and the tail rotor started to dip down until the lower tail fin touched the sand. The pilot immediately took off and we sought an alternative site further inland.

After a few minutes we found a spot, landed successfully and the pilot shut down the engine. The silence was a stark contrast after over an hour of flight. I radioed the ship that we had arrived and the four of us disembarked to look for the survey mark. It was a clear but fairly windy day and we spent some time looking for the landmarks indicating where the survey mark could be found. The four of us spread out and started hunting for the brass plaque set in concrete with a few old, rusted poles hammered in and also set in concrete, probably back in the 1960s.

The ship was in touch with us via a portable backpack HF radio and they kept asking 'found it yet?'. Eventually we did find it. I confirmed the survey mark ID, checked the site for suitability, we put up a new pole with brightly coloured tape on it and I made some notes and we informed the ship we were on our way back to the helicopter.

This is where the story got interesting. All the sand dunes looked alike. Our footprints had all blown away due to the strong breeze. The helicopter had been landed in a low depression well below the tops of the surrounding sand dunes. We headed back in the right direction, but the helicopter was not where we thought it was. We had lost it. The four of us climbed different dunes and were unable to see it. There were no distinguishing features anywhere nearby, apart from the survey mark site.

The island in this area was over 8km wide. We started to conduct a search, with an increasingly annoyed C.O. asking over the radio: "Are you airborne yet? What's keeping you?" We looked at each other. No way were we going to say we had lost the helicopter. So we kept on searching for maybe thirty minutes until one of the guys yelled "Here!" Back in the air we headed for the ship. I left it up to the pilot to relate the tale to the C.O. over a beer a few days later…

Cliff Delineation Episode

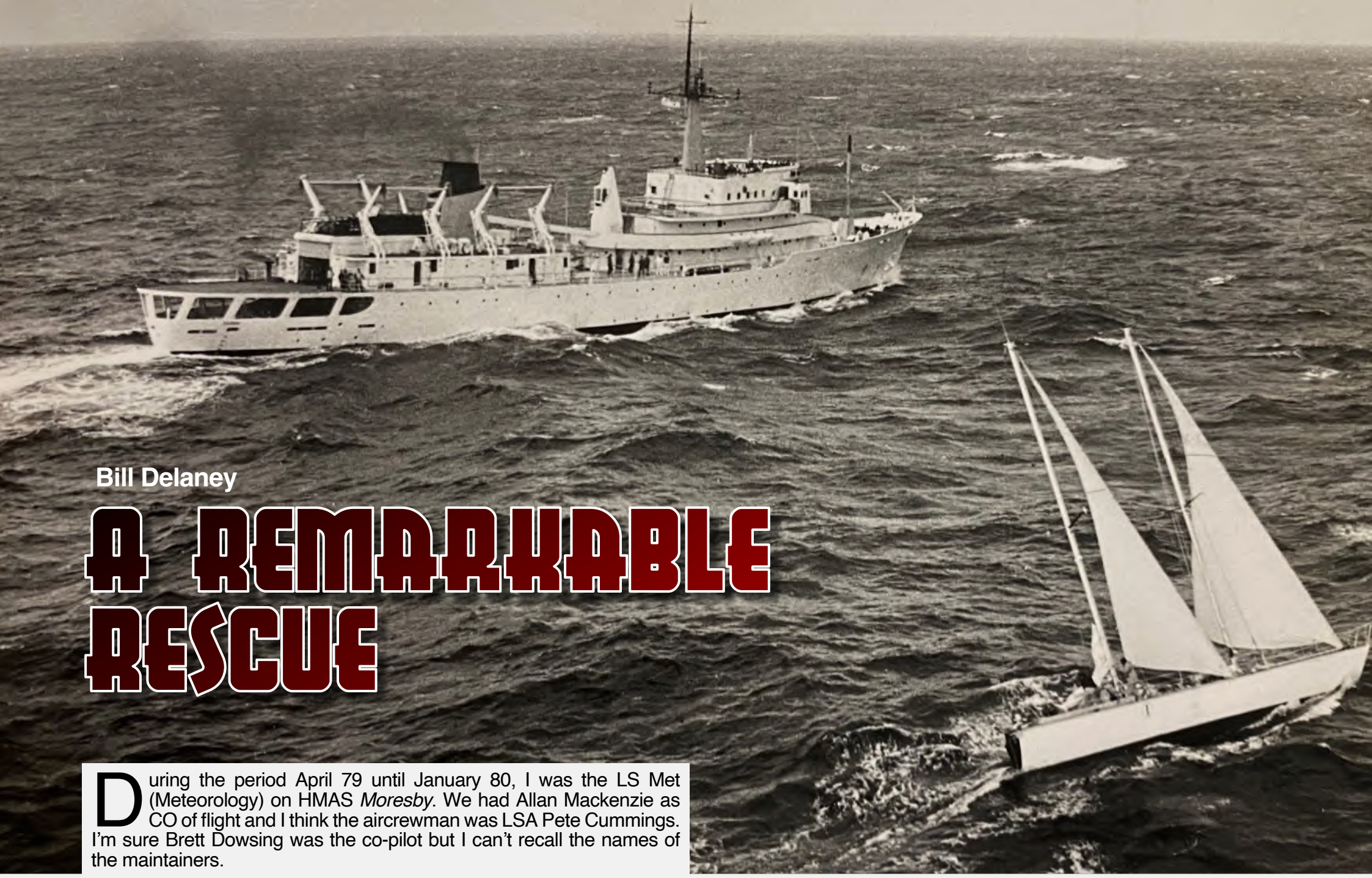
When surveying in Bass Strait off HMAS *Moresby* in 1988, I was tasked to fly in the Kiowa to conduct delineation of the coastlines of the islands in the Kent Group between TAS and VIC. This involved the pilot flying as closely as possible above the coastline of each island and the bearing and range of the helicopter being taken from the ship.

The helicopter had four people embarked, no doors and in the back a Survey Recorder sailor was manually aiming an electro-optical distance measuring device at the ship. My role was to assist the pilot in maintaining the aircraft directly above the coastline and co-ordinating the surveying operation. It was a fairly gusty day but we progressed satisfactorily. We were working above the southern end of Deal Island where there are quite high vertical cliffs. As we crossed the coastline a sudden updraft violently rolled the helicopter in towards the cliff face. The rotors missed striking the rocks by maybe 20 metres. A close call once more, but the pilot recovered control and we ensured we remained somewhat further from the cliffs thereafter.

In all, there was a measure of familiarity and routine associated with helicopter operations onboard *Moresby*, but this never led to carelessness nor complacency in my time. Over the life of the ship I heard anecdotally of several occasions in which helicopters of varying types were lost in ditching incidents, thankfully none that I was aware of caused any serious injury or loss of life.

The roles they were used for were many and varied, and they were very different from the roles of mainstream 'grey navy' helicopters and their aircrews. I undertook Helicopter Control Officer training, numerous occasions of aircraft crash on deck firefighting training, helicopter ditching underwater escape training, as did many of the personnel onboard, The Bell Kiowas gave good service in support of surveying operations and they saved the shore parties considerable hardship in lugging heavy equipment into inhospitable locations. This I know when comparing operations from *Moresby* with those from HMAS *Flinders* on the east coast that only occasionally had RAAF Iroquois support. ✈

Any of the aircrew who operated off Moresby would tell you that the variety of flying was one of the most enjoyable parts of the job. The two images to the right are of the Flight's Kiowa at work. In the first, a crew is building a tide station to record the height of the tide each hour, and, if possible, its maximum and minimums. In those days it relied on manual observation which involved walking from the camp to the tide pole, braving snakes and sharks on the way. Middle: setting up a survey camp. Below. Dropping in to remote localities was always fun as the locals were invariably delighted to see a Navy helicopter and it gave the opportunity to 'fly the flag'. Here, a B206 has landed in the car part of the Whim Creek Hotel, about 100 km south west of Port Hedland. ✈



Bill Delaney

A REMARKABLE RESCUE

During the period April 79 until January 80, I was the LS Met (Meteorology) on HMAS *Moresby*. We had Allan Mackenzie as CO of flight and I think the aircrewman was LSA Pete Cummings. I'm sure Brett Dowsing was the co-pilot but I can't recall the names of the maintainers.

One of the features of the time was the range of conditions the ship operated in, and the changing flying conditions that resulted. During this six-month period the ship operated off Geraldton and the Abrolhos Islands, and then for a further period to Joseph Bonaparte Gulf off Wyndham with a resupply weekend in Darwin.

Of course, back then, GPS was only in its infancy, so the Kiowa was tasked with landing survey parties to establish fixed ground radio transmitting stations to position the ship for its bathymetric surveys. In preparation for their delivery runs, the aircrew were always interested in the density altitude and forecast pressure and temperature for periods during the day, especially up in the warmer weather in the Gulf.

A highlight though, was when *Moresby* was tasked as guard ship for the Parmelia Yacht Race, (Plymouth UK to Fremantle), as part of the WAY 79 celebrations for the 150th anniversary of WA. *Moresby* was tasked to rendezvous with the fleet of yachts and act as guard ship/radio relay vessel on their way to Fremantle. This involved heading out to some point southwest of Fremantle, turning around and coming back!

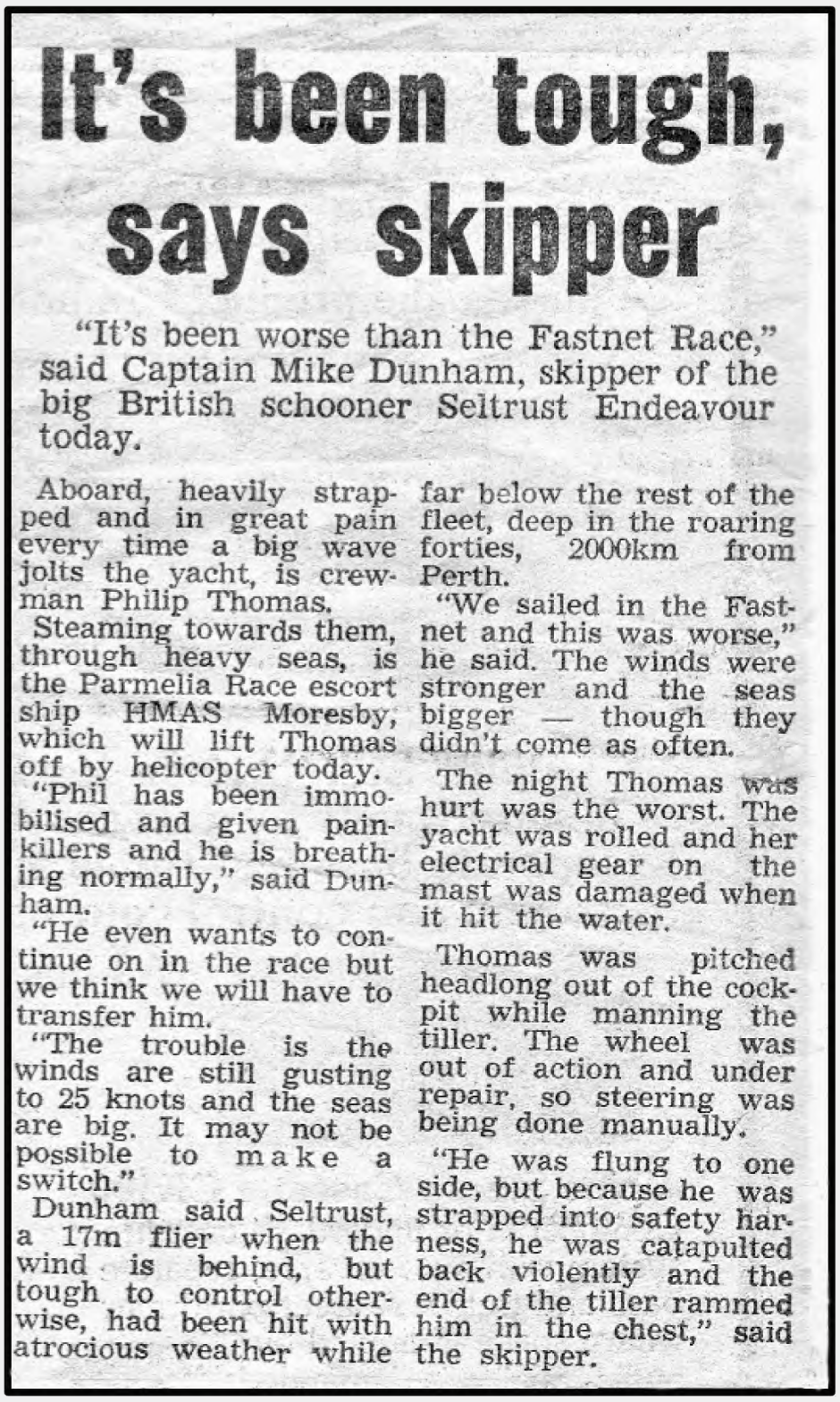
I can recall much discussion amongst Ship's Officers and Senior Sailors as the ship prepared to operate in waters south of the continent, well outside its normal operating range. Wind-chill, sea surface temperatures, possible ice, immersion suits and the like were all front and centre of our preparations in heading west and southwest towards Africa.

Attached is an article from the 'Daily News' which features the rescue of a crewman from the *Seltrust Endeavour.* The yacht was knocked down in heavy seas, (described by the skipper of *Seltrust Endeavour* as equivalent to the conditions of the famed Fastnet Race of 1979), and a crewman on board, who had suspected broken ribs, was finding breathing very painful.

Consequently, the yacht issued a request for medical assistance. The conditions at the time were particularly rough, the upper deck was out of bounds for several days with fittings on the main deck damaged by wave action. I recall that for quite some time the view from the bridge, was no horizon, just green water between the swells, with the wind waves whipping up white water and spray, the weather was atrocious. (Sustained Force 8 - 9 Gales with squalls to Force 10).

I spent a lot of time coordinating met observations and forecasts to the yachties and coding their met observations up to send through to Nowra. The Met Office at Nowra assisted *Moresby* by sending what observations they had from other ships reporting in the Southern Ocean. This assisted ships staff on *Moresby* to gauge the broader weather picture.

We were a long way from anywhere, and at one stage the only



It's been tough, says skipper

"It's been worse than the Fastnet Race," said Captain Mike Dunham, skipper of the big British schooner Seltrust Endeavour today.

Aboard, heavily strapped and in great pain every time a big wave jolts the yacht, is crewman Philip Thomas.

Steaming towards them, through heavy seas, is the Parmelia Race escort ship HMAS Moresby, which will lift Thomas off by helicopter today.

"Phil has been immobilised and given painkillers and he is breathing normally," said Dunham.

"He even wants to continue on in the race but we think we will have to transfer him.

"The trouble is the winds are still gusting to 25 knots and the seas are big. It may not be possible to make a switch."

Dunham said Seltrust, a 17m flier when the wind is behind, but tough to control otherwise, had been hit with atrocious weather while far below the rest of the fleet, deep in the roaring forties, 2000km from Perth.

"We sailed in the Fastnet and this was worse," he said. The winds were stronger and the seas bigger — though they didn't come as often.

The night Thomas was hurt was the worst. The yacht was rolled and her electrical gear on the mast was damaged when it hit the water.

Thomas was pitched headlong out of the cockpit while manning the tiller. The wheel was out of action and under repair, so steering was being done manually.

"He was flung to one side, but because he was strapped into safety harness, he was catapulted back violently and the end of the tiller rammed him in the chest," said the skipper.

observation we had on our weather chart was our own! We certainly encouraged the yachts to report their conditions, as collectively our data made for a reasonable picture of the situation. I also recall one of the yachts passing their sun sights to another yacht by radio, to check they had their celestial navigation calculations correct as their calculator had been damaged by water!

Certainly, the rescue was an impressive piece of navigation by the ship's staff and airmanship by Allan Mackenzie and his crew. The first problem was to find the yacht. *Seltrust Endeavour* had not had a sun sight for several days and were running off a Dead Reckoning, (DR), position from what I remember, and the position they gave us for themselves was not that accurate.

The helicopter flew several hours in a grid search pattern trying to locate the yacht. We eventually found it after several hours of flying, by vectoring off another ship they could see. I do recall that the ship's flight deck was moving around substantially during flying operations, but the injured sailor was successfully lifted off the yacht and flown to *Moresby* for medical treatment.

We did have a newspaper journalist on board at the time, and I'm sure there is some further coverage of this rescue. But with the benefit of 40 years of hindsight, it was quite a feat of flying to firstly locate *Endeavour*, given the information we had, and secondly rescuing the injured yachtsman in what was a long rolling sea with the deck moving as it was.

From the notes I have, the initial search took place in the vicinity of 47° 24' S and 91° 20' east which is well south! [Allan Mackenzie's logbook says the rescue was at 42.50° South; 94° East – Ed.]

The Kiowa pilot Allan Mackenzie went on to the ministry in the Uniting Church in W.A. and was the School Chaplain at Wesley College in South Perth for a period of years. I think it was 817 Squadron that dropped a Sea King onto the school oval there at one stage to pay him a visit.

The *Seltrust Endeavour* rescue was a remarkable example of what the Bell 206B-1 and its aircrew could do in adverse conditions. I trust this story about HMAS *Moresby* and her Flight is of interest, and I'm pleased to be able to pass on my recollections and the small part I played.✈

Main picture *(previous page). Having located the Seltrust Endeavour in southern waters, HMAS Moresby was able to close her, but it was too rough to enable a yacht -to-ship transfer of the injured crewman. With high seas and the yacht's mast as a major hazard, the evolution to recover the man was difficult, as recounted by the Aircrewman, Peter Cummings.✈*

"I winched LEUT Dowsing down to the yacht then we came back to the ship and waited for you to call us back. Then we put the paraguard stretcher down and waited until he'd strapped the patient into it. When ready we returned and hi-lined the stretcher up. I remember conning the aircraft up as the weight came on, and the stretcher took off from the yacht and skimmed across the top of a wave, wetting the patient. After dropping him off at the ship we came back for LEUT Dowsing who appeared with some goodies in the stretcher bag. This was my first hi-line winch other than basic aircrew course, I had only about 500 hrs total at this stage.I was very, very nervous about this winch and that I'd used every inch of cable on the drum and at one point I thought that we still didn't have enough cable. At one time the yacht's mast came under the aircraft and I could've put my foot on it, it was that close (or it appeared to be)."
Endeavour's crewman made a full recovery. ✈

Above Right: *Those involved in the rescue. Back Row L-R: LCDR Alan Mackenzie, LEUT Brett Dowsing, LSA Peter Cummings, LSSE Sam Summers, POATWL Paul Cosgrove. Front: CPOATA Col Liddicoat, LSATA Phil Beck and LSPHOT Tony Fareso.✈*

References:

RAN Fleet Air Arm Museum, Nowra
RAN 723 Squadron History
'Wings Across The Sea' by Ross Gillett, Aerospace Publications, 1988
Reports of Proceedings HMAS *Moresby*
AMAFTU - RANAS Nowra
National Archives of Australia
Australian War Memorial
ADF Serials
RAN 'Navy News'
'Daily News' 21 Nov '79

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Airframe information below by **ADF Serials**, with gratitude.

RAN Serial	Bell C/N	CAC C/N	RAN Code	History
N/A	44504	N/A	891? 895?	See A17-004 above Delivered 19/11/71. Richmond Airshow 1988. Loaned to RAN, one source says RAN code 891 another says code 895 (Tjalling Boelman), then returned to Army. Was at ARDU. In service with 161 Recce Sqn Darwin 01/12/05. Flying Display Avalon 2007. One of twenty two that were sold by Gray's On-line Auction that ended on 4/03/2019 Airframe hours 10,275 Hours to overhaul 1,488 Engine hours 11,214.9 High bid $111,009 Sold to E.Q of Victoriaville Canada
N17-005	44505	N/A	891 895?	Delivered 1971. Loaned to RAN, Returned to Army In service with Army Helicopter School Oakey 01/12/05. Sold to Australian Aviation Heritage Centre Caboolture 08/2017 08/2019 mounted on a pole at Bribie Island Vietnam Veterans Memorial Park opposite the Bribie RSL.
N17-006	44506	N/A	896	Delivered 05/10/88. Was in service 723 Sqn RAN code 896. Ditched 14/04/86 into Admiralty Gulf WA at 1:50pm 1/2 a mile from the ship after an engine failure while attached to HMAS *Moresby* and recovered. Returned to Army '2000.
N17-013	44513	CA32-13	892	The first Australian built Kiowa Transferred to RAN 17/06/74 Avalon Airshow 1999. Was in service 723 Sqn RAN code 892. Returned to Army '2000. Acquired by RAN Historic Flight, 11/2013 Was to be restored to airworthiness, Registration allocated VH-NVO Project halted when RANHF disbanded.
N17-025	44525	CA32-25	891	Delivered 06/74. Coded 891. Crashed 30/07/77 Sunday Island off the West Australia coast whilst operating with HC723 Sqn, RAN. The helicopter was recovering a hydrographer from a cliff face when the hydrographer jumped aboard the helo he unbalanced it and it fell 50m down the cliff face. It was embarked on HMAS *Moresby* carrying out cartographic work on the West Coast when the accident happened. The crew of Leut(P) Jackson and LSACM Mason survived unhurt.
A17-032	44532	CA32-32		1998 Loaned to RAN. Retained Army camouflage and serial. Fitted with Navy titles and low profile skids. In service with Army Helicopter School Oakey 01/12/05. In storage at Avalon airport awaiting sale One of twenty two that were sold by Gray's On-line Auction that ended on 4/03/2019 Airframe hours 11,304.7 Hours to overhaul 1,312.5 Engine hours 7,276.5 High bid $97,409 Sold to S.O of Horsley Park NSW Sale didn't proceed and was relisted 4/04/2019 for auction at Bandiana. NSW High bid the second auction was $126,109 Sold to N.P of Mount Eliza, VIC 2/05/2019 Registered VH-XKY to Code Black Pty Ltd of Mt. Eliza, Victoria
A17-034	44534	CA32-34		1988 Loaned to RAN. Retained Army camouflage and serial. Fitted with Navy titles and low profile skids. In service with Army Helicopter School Oakey 01/12/05. Sold to Australian Aviation Heritage Centre Caboolture 08/2017
N17-049	44549	CA32-49	890	Delivered 09/03/77. In service 723 Sqn RAN, code 890. Returned to Army '2000.
A17-056	44556	CA32-56	899	Delivered 08/03/77. Loaned to RAN, code 899. Returned to Army. 01/09/87 Crashed in Tasmania, due to dynamic roll-over whilst attempting to land. The remains have been used in a composite rebuild at RAAHC Amberley to be used as an interactive display.