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These boards can be accessed at: www.adf-messageboard.com.au/invboard/

News Briefs

- The US Defence Security Cooperation Agency notified Congress May 21 of a possible Foreign Military Sale to the Republic of Korea (ROK) for F-35 aircraft weapons and associated equipment, parts, training and logistical support for an estimated cost of $793 million.
- The US Defence Security Cooperation Agency notified Congress April 3 of a possible Foreign Military Sale to the Government of the Republic of Singapore for 20 AIM 9X-2 SIDEWINDER Block II All Up Round Missiles
- The US Defence Security Cooperation Agency notified Congress April 3 of a possible Foreign Military Sale to the Government of the Republic of Singapore for 100 AIM-120C7 Advanced Medium Range Air-to-Air Missiles (AMRAAM)
- The Navy’s newest unmanned Intelligence, Surveillance and Reconnaissance (ISR) aircraft platform, the MQ-4C Triton Unmanned Aircraft System (UAS), completed its first flight from Palmdale, Califon the 22nd May, 2013, marking the start of tests which will validate the Northrop Grumman-built system for future fleet operations. During the 80-minute flight in restricted airspace, the MQ-4C Triton unmanned aircraft, controlled by ground-based Navy and Northrop Grumman personnel, reached 20,000 feet altitude. “This flight represents a significant milestone for the Triton team,” said Rear Adm. Mat Winter, who leads the Program Executive Office
for Unmanned Aviation and Strike Weapons at Naval Air Systems Command, Patuxent River, Md.

The MQ-4C Triton provides the fleet with a game-changing persistent maritime and littoral ISR data collection and dissemination capability, said Winter. It will be a key component of the Navy’s Maritime Patrol and Reconnaissance Force family of systems. As an adjunct to the manned P-8A Poseidon, the MQ-4C Triton will be a major part of the military’s surveillance strategy for the Asia and Pacific regions. The Triton will fly missions for 24 hours at altitudes greater than 10 miles, allowing the system to monitor 2,000 nautical miles of ocean and littoral areas at a time. The P-8A Poseidon is the Navy’s new multi-mission maritime aircraft being built to replace the P-3C Orion long-range anti-submarine warfare aircraft. “When operational, the MQ-4C will complement our manned P-8 because it can fly for long periods, transmit its information in real-time to units in the air and on ground, as well as use less resources than previous surveillance aircraft,” said Rear Adm. Sean Buck, Patrol and Reconnaissance Group commander, who also witnessed today’s flight. “Triton will bring an unprecedented ISR capability to the war fighter.” The MQ-4C Triton UAS will be based at five locations around the globe. Triton operators will disseminate data in real-time to fleet units to support surface warfare, intelligence operations, strike warfare and search and rescue. Australia is considering the purchase of up to 7 MQ-4C Tritons, to compliment our proposed 8 P-8A Poseidon aircraft. The Australian Ministers for Defence and Defence Materiel announced on 15th May 2013 that the government of Australia will enter into a Foreign Military Sales (FMS) planning case with the U.S. Navy for the MQ-4C Triton Unmanned Aircraft System (UAS).

“The goal is to provide long-range, long-endurance maritime surveillance and response and an effective anti-submarine and anti-surface warfare capability.” Australia’s interest in the U.S. Navy’s persistent maritime surveillance unmanned systems development dates back to 2007 when it participated in the Broad Area Maritime Surveillance (BAMS) UAS pre-system development and demonstration under a cooperative partner project agreement.
Bi Fellah, he comin

Whilst the strategic use of C-130H and C-130J-30s continued in Afghanistan and the Middle East, by the late 00’s, but with the B707 Tankers been retired, the use of chartered aircraft to lift bulky items increased when compatible USAF aircraft were unavailable. Giant Russian or Ukrainian owned Antonov -An124s or Il-76s were used from 1999 and 2006. Australian owned and formed Strategic Airlines flew A330’s to and from Afghanistan on transport contracts with the ADF.

Backed with continued budget surpluses and government steadfast continuance on the war on terror, the RAAF revisited the issue of strategic transport requirements.

A window emerged where it was possible to attain a limited number of C-17As that would in effect, reduce the burden on flight hours on the high usage C-130H/J-30 fleet in support of the war on terror. A proposal was put forward whereby if purchased, the older C-130H fleet, possibly reduced down to an eight aircraft active fleet, could possibly extend its service life out to 2016 or even later, with minor refurbishment.

Overall, with increase savings and operational considerations, a small fleet of three to four C-17As would be cost wise and equivalent in load ability and operating costs of up to eighteen C-130Hs or twelve C-130J-30s whilst reducing the personnel and equipment footprint by having a larger capable and faster transport jet in the strategic role.

A comparison is that a C-17A can carry the full load of a C-130H on its cargo ramp alone. The order was placed for four C-17A in 2006 with the USAF giving up slots to ensure early delivery. With an availability rate of nearly 80%, it was expected that at least two would be available (equivalent to twelve C-130Hs) at any time. They would be fitted with LAIRCM Electronic Warfare Self Defence from the start or soon after from 2008. C-130J-30 L AIRCM under Air 5142 Phase 4 was to acquire IOC EWSP for C-130J-30 aircraft by 2012.

The RAAF Transport Fleet was changing. It now would have four C-17s (delivered or on order); twelve C-130J-30s, nine C-130Hs (three additional held non-flying) and fourteen DHC Caribous in service. In a short period, the RAAF Transport Group lifting power had almost doubled over a year.

The Army in the same period in the 90’s and 00’s, under Air 9000, was looking at increasing the tactical Helicopter force by consolidating both the UH-1H replacement and S-70A9 Fleet supplementation.

**Project AIR 9000 is broken down into a number of phases:**

- Phase 1 is the continuation of the ADF Helicopter Strategic Master Plan Development and Program Management;
- Phase 2 is the acquisition of Additional Troop-Lift Helicopters (to be MRH-90);
- SCAP 1 is providing a Seahawk Capability Assurance Program;
- Phase 4 is the Black Hawk Replacement (to be MRH-90);
- Phase 5 is the Chinook upgrade/replacement with Phase 5A (Early Engine Upgrade) complete and Phase 5C seeking to upgrade/replace the current D-Model fleet with F-Models;
- Phase 6 (approved) is the Maritime Support Helicopter Replacement (to be MRH-90);
- Phase 7 is the new Helicopter Aircrew Training System; and
- Phase 8 is to provide at least 24 new Anti-Submarine Warfare/Anti-Surface Warfare Helicopters (to be MH-60R)

The idea was to get a common airframe that could additionally supplement and then replace the S-70A9 following the UH-1H replacement, to fit in the new doctrine of amphibious warfare capability whilst still bearing in mind that the airframe life remaining of the Blackhawk fleet from phases one and two orders. Initially twelve Multirole helicopters would be ordered, with follow on batches ordered as the S-70A9s reached their LOTs.

At the time of decision in 2004, the AAv’s helicopter force was at a level of thirty-six Blackhawks, eighteen UH-1Hs (of twenty eight held), six CH-47Ds and some thirty Kiowa’s (of forty – one held) in use.

The favoured and low cost airframe considered was the UH-60M, itself a newer and versatile version of the S-70A9, incorporating a digital cockpit, GPS, up-rated T700-GE-701C engines, wide cord blades, upgraded troop seats, folding composite tail boom, digital flight controls, and improved IR suppression along with a host of improvements (seating thirteen instead of eleven, able to lift externally 4080kgs against the S-70A9’s 2727kg, Speed 295kmh against 270kmh and range 650km verses 595km). Airframe life would be 8000hrs. A new build was priced at Aus$18.5 million a unit, and should the earlier Phase Purchases be upgraded and rebuilt zero-timed into UH-60Ms, their price would be Aus$13.0 Million per airframe. The only drawback was the new airframe was not designed to undergo lengthy use of shipboard life.

For the cost of twelve UH-60Ms and the follow-on upgrade of existing S-70A9s to UH-60M, the value would have been exemplary and the in-service date for all then forty-eight airframes concluded by 2010, if the remanufacture was in the US of A. It was a matter of cost effective re-capitalisation of existing assets and purchasing a limited number of new airframes.

The MH-60S Knight Hawk was, though unit prices were higher and delivery further on, considered as the ideal solution to this issue, though not pursued.*

The MRH90 is in the 10-tonne helicopter class and is capable of carrying two pilots, two loadmasters and 18 combat troops up to 900km at speeds of up to 300km/h. The cabin allows the installation of 20 crashworthy troop seats or, alternatively, up to 12 stretchers. The flight control system (FCS) of the MRH90 is based on a redundant fly-by-wire (FBW) system with no mechanical back-up. It provides the MRH90 with enhanced manoeuvrability. The helicopter is a single main rotor helicopter of the 10-tonne class, powered by two engines. The engines installed on the MRH90 are the RTM 322-01/9 supplied by Rolls Royce / Turbomeca. The helicopter has a full composite, crashworthy fuselage with a constant cross-section centre fuselage and significant crashworthy capabilities (based on MIL-STD-1290A) giving protection up to 10m/s (landing gear extended) and 7m/s (landing gear retracted) up to 11-tonnes helicopter weight.
A further thirty-four airframes were ordered in 2005 for Phase 4, including six for the Navy per Phase 6. The Army’s initial Operating Capability (IOC) was slotted for mid 2011. The Navy was to attain its IOC by the middle of 2010, ensuring the retirement of its Seaking helicopters at the end of 2010.

The winner (above picture of A40-003) of the competition was announced, for twelve Eurocopter MRH-90s, for Phase 2 in 2004, an excellent design and what would promise to become a highly capable transport helicopter with two airframes being delivered initially on contract, December 2007, from Europe.

At the beginning of 2010, the AAV’s helicopter force was at a level of thirty-four Blackhawks, six CH-47Ds six to seven MRH-90s (Training only, with a further six in RANFAA) and some twenty-eight Kiowa’s (of forty – one held) in use.

By mid 2009 the continuing issue of replacing the fleet of fourteen Caribou was brought to a head, with the retirement of the airframes without replacement, other than in a communications role, with eight King Air aircraft in 2010 (Five new leased and three transferred from AAV). These are operated by 38 Squadron at Townsville. Air9000 Phase 5C saw the Australian Army’s current fleet of six CH-47D Chinook helicopters to be replaced with seven CH-47F Chinook helicopters and associated Transportable Flight Proficiency Simulators to be delivered by 2014.

The RAAF Transport Fleet now by 2010 had four C-17s; twelve C-130J-30s and eight C-130Hs (four additional held were in non-flying condition) in service. Over the next year in 2010 things were going awry with the production of European made MRH-90 airframes with Australian again in the position of being de-facto lead customer, as it has been with ARH and KC-30A, the helicopter was
facing development problems. Deliveries were deferred in late 2010 until a revised engineering and software issues were resolved and mapped.

The initial MRH-90s were being used for both AAv and Navy training and testing. The first five were fitted with Product baseline 01(PB01) software with airframes six to twelve and fifteen to be fitted to PB02 software. Two aircraft in the Phase 2 purchase were completed in Europe (including A40-15) to bring the delivery timetable back in line. Further large issues such as engines, fuselage antenna clearance, and cargo floor strength, ESWP and spares support plagued the program for much of 2010 and 2011.

By 2012 'A' Squadron will be subsequently re-equipped with ten to twelve MRH-90 medium helicopters and its sister unit, 'B' Squadron will be equipped with these aircraft by 2015. It can be said, that the Project time, from contract signing to final delivery, by taking some eleven years to see fruition, is rather long.

Meanwhile within the RAAF Transport Fleet planning the Air 5190 was merged into Air 8000 phase 2. Air 8000 Phase 1 is intended to rationalise the C-130 fleet, noting the acquisition of C-17A and planned withdrawal of the C-130H aircraft somewhere in 2014, by acquiring an additional two C-130J aircraft. The purchase of a fifth C-17A in September 2011 removed the need of the later two additional C-130J-30s, with further news on delivery of number five, that a sixth C-17A was being ordered for delivery later the following year in November 2012.

It was decided finally earlier in 2012 that after three years following the retirement of the Caribou, that ten Lockheed Military Systems (LMS) C-27J Spartans were to be ordered under FMS contract, and to be operated by a reformed 35 Squadron. The trade-off was the early retirement of the eight in-use C-130H transports of 37 Squadron by late 2012. Four of these C-130H’s was officially gifted to Indonesia this year with delivery early 2013. The remaining fleet of four in-active and four grounded airframes will be disposed of at the commonwealth’s pleasure.

The RAAF Transport Fleet now by the end of 2012 will have six C-17s and twelve C-130J-30s in operational service and ten C-27Js on order, with delivery from 2014. These airframe numbers should remain static for the next decade it is assumed, though the possibility of further ex USAF C-27Js not ruled out.

On 31st May 2011, a CH-47D+ Chinook (A15-102) crashed while operating in Afghanistan. Destroyed on site, and after a lengthy decision making process, the purchase of the two ex-United States Army CH47D attrition helicopters was approved by Government during November 2011. Both were delivered and inducted into refurbishment process in December 2011 and accepted in service by the AAv in June 2012. That brought the AAv Chinook fleet to five CH-47D+ and two CH-47Ds, with plans to introduce the “plus mods” on the later ex US Army CH-47Ds later. With a further seven CH-47Fs on order from 2014, there appears to be a window, if desired, for five of the original CH-47D+ to be remanufactured by Boeing into CH-47Fs by 2018. Whether this decision will be forthcoming, depends on the government. Operation of the Delta will continue until 2017.

On Friday, 22nd Jun 2012, another AAv CH-47D+ Chinook helicopter suffered a hard landing during combat support operations at a Coalition force patrol base in Kandahar province.

As of the middle of 2012, the AAv’s helicopter force was at a level of thirty-four Blackhawks, twelve MRH-90s (of forty ordered for the AAv), six CH-47Ds (with seven CH-47Fs on order) and some
twenty-four Kiowa’s (of forty one held) in use. More MRH-90s are being remanufactured or are being product rectified at Australian Aerospace, Eagle Farm Brisbane at this time.

*I won’t go into the whole Air 9000 Phase 6 due to the naval issue of the appended Seaking replacement phase due in many a small fact from the loss of Shark 02. Indeed now in hindsight in the year 2011 decisions by the Federal Government, with the purchase of twenty-four MH-60Rs by the RANFAA in Phase 8, its almost financial neglect since the aircraft is airframe/drive train dynamic compatible! The Navy could have at least obtained six to eight MH-60S instead of the six MRH-90s for the same value over the purchase price and service life through the commonality of spares alone. That was the theme of Air9000 in the first place I imagine.

The first of six, picture here is C-17A Block XVI A41-206. On 2nd March 2006, the Australian government announced the purchase of three aircraft and one option with an entry into service date of 2006. In July 2006 a fixed price contract was awarded to Boeing to deliver four C-17s for US$780M (A$1bn). Australia also signed a US$80.7M contract to join the global ‘virtual fleet’ C-17 sustainment program and the RAAF’s C-17s will receive the same upgrades as the USAF’s fleet.

Summary

In the past fifty-four years we saw the introduction of modern turbine and jet engine transport airframes, along with turbine engine transport helicopters and a single type of post-war piston designed tactical transport aircraft. The move of the helicopter fleet to the Army in the eighties highlighted by the reduction of types in the RAAF in the 21st century shows what a long drawn out plan it has been.

*Quote Excerpt "IN FOCUS: Australian airlift comes of age" By: Greg Waldron Singapore 2012. The C-17 is emblematic of a broader transformation of the RAAF’s airlift capabilities. In the 10 years from 2006 to 2016, the RAAF’s airlift fleet will drop to 46 from 47 aircraft, but this slight decline will be more than made up for with capacity, which will rise to 965t from 673t, or 4,441 passengers from 3,931. The average age of the fixed wing fleet in 2016 will fall to only nine years, compared with 24 years in 2006. My addition is 6 C-17s, 12 C-130Js, 5 KC-33s and 10 C-27s, equalling 33, not 46, unless you include the 8 King Airs and the 5 VIP Jets (Wipe your feet first you horrible little grunts before you enter?).

The actual individual airframes transiting through the transport fleet over the years: Six C-17As, forty eight C-130 Hercules, twenty nine DHC4 Caribou, sixty seven UH-1 Iroquois, sixteen Chinooks (with seven more on order), thirty nine S-70A9 Blackhawks, and forthcoming, forty MRH-90s.
The Royal Australian Air Force took delivery of its first C-17A in a ceremony at Boeing's plant at Long Beach, California on 28th November 2006. Several days later the aircraft flew from Hickam Air Force Base, Honolulu, Hawaii to Defence Establishment Fairbairn, Canberra, arriving on 4th December 2006. The aircraft was formally accepted in a ceremony at Fairbairn shortly after arrival. The second C-17A aircraft was delivered to the RAAF on 11th May 2007 and the third was delivered on 18th December 2007. The fourth Australian C-17A was delivered on 19th January 2008. All the Australian C-17s are operated by No. 36 Squadron and are based at RAAF Base Amberley in Queensland.

On 18th April 2011, Boeing announced that the Commonwealth of Australia had signed an agreement with the U.S. government to acquire a fifth C-17A Block XVIII due to an increased demand for humanitarian and disaster relief missions. The aircraft was delivered to the RAAF on 14th September 2011. On 23rd September 2011, Australian Minister for Defence Materiel Jason Clare announced that the government was seeking information from the United States about the price and delivery schedule for a sixth Globemaster.

In November 2011, Australia requested a 6th C-17A Block XVIII through the U.S. FMS program. This aircraft was ordered in June 2012, and was delivered on 1st November 2012. Australia’s C-17As have supported ADF operations around the world. Tasks have included supporting Air Combat Group training deployments to the United States, transporting Royal Australian Navy Sea Hawk helicopters and making fortnightly missions to the Middle East to supply Australian forces in Iraq and Afghanistan.

The C-17As have also carried humanitarian supplies to Papua New Guinea during Operation Papua New Guinea Assist in 2007, supplies and South African Puma helicopters to Burma in 2008 following Cyclone Nargis, relief supplies to Samoa following the 2009 earthquake, relief supplies around Queensland following the 2010–2011 floods and Cyclone Yasi, and rescue teams and equipment to New Zealand following the February 2011 Christchurch earthquake, and delivery of equipment for mitigation of the effects caused by the 2011 Tōhoku earthquake and tsunami from Western Australia to Japan.

We have come a long way from the C-47.

**The USAF Transport Road Map**

*Excerpts from AIR FORCE Magazine (USAF) June 2012:*

Having sent Congress a budget plan to reduce the USAF airlift fleet some 20 percent, the US Air Force and the Pentagon are now gearing up for a study to ensure mobility force levels are adequate to meet new national strategy requirements while leaving enough to deal with pop-up contingencies. To fulfill the strategy, Air Mobility Command is focusing on standardizing the aircraft types it will keep and launching its own studies of how eventually to replace them.

Its commander, Gen. Raymond E. Johns Jr., sees the makeup of the fleet remaining stable nearly to midcentury. The US Air Force has proposed reductions in both its strategic and tactical airlifter fleets that emphasize flexibility and multirole capability while eliminating niche capabilities the service says it can’t afford. The strategic fleet, which was to have numbered more than 300 airframes, will now be set at 275. It will comprise 223 C-17s and 52 C-5Ms. The C-17s— not all delivered yet— will be
standardized to the Block 18 configuration, said Johns. That means the entire fleet will have extended range fuel tanks and cockpit enhancements not included on early models that began to be delivered in the 1990s. This block “defined” the C-17A configuration,

Johns said in an interview. “With that capability on the C-17A model, and the 223 numbers, I’m good to go as far as meeting the need,” he said. The C-5M represents a substantial upgrade to the C-5B and C models and includes full engine replacement, structural enhancements, and avionics changes. Fifty-two C-5Ms would make up the fleet. There will be 223 Globemaster IIs in the new, smaller strategic fleet.

The last C-17 will join the US Air Force inventory in about 2014 (#233). The exact timing isn’t certain because USAF has been allowing foreign customers to cut in ahead of it on the production line, due to their funding situations, Johns said. Taking later deliveries also allows USAF to keep the C-17 line open just a bit longer, thus preserving options for continued production if circumstances change—a nod to the “reversibility” aspect of the new national strategy. Schwartz told reporters in February that a CAPE analysis comparing the 25-year life-cycle costs of the C-27J, C-130J, and C-130H told the whole story.

“If I recall the numbers correctly, it was $308 million-an-airplane life-cycle cost for the C-27J; it was $209 [million] for the J model C-130; and it was $185 million for the C-130H,” Schwartz reported.

“The C-27J is not a cheap airplane,” he continued. “It’s a fine machine and I wish we could have kept it. It was the last thing that went. But the bottom line is that the C-130 or airdrop can perform the time-critical, mission-sensitive missions we are obliged to provide for the Army.” Johns agreed that the C-27J is a good aircraft but is simply not as “versatile” as the C-130, and AMC can’t keep it if the command must reduce the types of airframes it flies.

“It’s not about the money,” Johns added, but the need to field only those aircraft capable of doing as much as possible. He said USAF is already operating the C-130 as the Army’s on call support aircraft in two locations and is meeting all its requirements. “If I lose C-130s at the expense of C-27s, I lose capability and capacity to meet the plans across the spectrum.”

**Get Back in Line**

To get all the C-17s up to a common configuration, it will be necessary to have about nine of them in depot at any given time, Johns said. The approach to updating AMC’s aircraft with common configurations represents a sea change in thinking, he noted. “We’ve walked away from doing ‘spiral development,’” said Johns, referring to the scheme in which aircraft were incrementally upgraded with small improvements. “We’re back to doing P3I,” or pre-planned product improvements, in which a whole fleet receives a common menu of upgrades, such as avionics and self-protection countermeasures.

The spiral method created a sustainment headache, and common configurations make it easier for him to calculate capacity across AMC’s entire enterprise, without having to go into a variety of special cases. “We’ve got the money” programmed into the budget “to get the whole fleet to a common configuration,” Johns explained. However, due to capacity, it will take until about 2021 to get the C-17 fleet standardized, he noted.
Whether the Air Force will do a service life extension program on the C-17 is still to be determined. “We actually started looking at that, and that’s an important conversation to have,” but there’s no money except for “the studies and trying to frame it out.” A C-17 SLEP would be expensive, especially if it included new engines. “I want to go into this gradually and see what’s the knee in the curve—45,000 hours, 60,000 hours, 90,000 hours, and then the engineering analysis of wing box, life cycle, all those things,” he noted. Fuel consumption will be an increasingly important factor.

The decision whether to SLEP the C-17 will be key to whether AMC begins pursuing a C-X that might Supplies on Target Much has been done to make the Joint Precision Airdrop System more accurate and less costly. JPADS marries GPS guidance to a parachute load and steers the parachute to a precision landing at precise coordinates. The parachutes in the system are now disposable, and GPS units less heavy, so there is less for the Army to collect and haul back for reuse, said Air Mobility Command’s Gen. Raymond E. Johns Jr. The JPADS units make it possible to hit a drop zone only a few dozen yards long or less, instead of the mile-long drop zone that must be secured for regular airdrop. The mission is now called Airborne Direct Support. “It’s going to be increasingly high speed, low altitude. We’re doing low speed, low altitude, all to get the footprint down so we can reduce the burden on the Army,” Johns reported. “We’re actually dropping inside [forward operating bases] now, because sometimes they can’t get to their DZ,” or drop zones. Air Force Research Lab and other innovators are working to make JPADS even more accurate, but it doesn’t have to be perfect, Johns said.

“I don’t want to put a bundle through somebody’s front window; I just want to put it at their front door.” Variations on the system are also being explored for relief operations such as last year in the Haiti earthquake.

“One pass with the C-17, with airdrop, will feed about 4,000 people for 24 hours,” he noted.

His decision whether to SLEP the C-17 will be key to whether AMC begins pursuing a C-X* that might potentially replace both the C-17 and C-5, Johns said; the latter will phase out of the inventory around 2040. The last C-5M will emerge from Lockheed Martin’s conversion facility in Marietta, Ga., around 2017, Johns said. Several other considerations affect the timing and need for a potential C-X, Johns noted. One is if industry will be able to build what he called “one-offs.” Can a contractor efficiently produce one or two airlifters such as the C-17 or C-130J without a major order requiring a years-long production line? The second question is whether there could be a major modification of the C-17 akin to the “stretching” of the C-141A Starlifter into the C-141B. Yet another question concerns preserving C-17 tooling when the line eventually closes, he said, in case the nation wants the line restarted later, as happened with the C-5. (1968-1971, then 1984 to 1989)

*This may well be a replacement C-17A planning factor for the RAAF circa 2036-45 onwards
On the 23rd May 1979, Sea King N16-098 ditched into the sea approximately 350 nm east of Jervis Bay, NSW while preparing to land on board HMAS MELBOURNE.

Ditching an aircraft, unlike ejecting, requires an incredible amount of conscious effort and planning. Helicopters unfortunately do not possess equipment to enable a rapid exit in case of an in-flight emergency. Therefore, crews and passengers who fly in helicopters must accept the fact that they will have to ride the machine to earth in the event of a catastrophic emergency.

Ditching into water presents many problems which need to be realised by both aircrew and passengers alike. However, if you subconsciously run through the ditching procedures pertaining to your particular aircraft, it may just save your life if and when the real thing happens.

The following account of the accident involving RAN Sea King N16-098 was written by Mark Ogden who, at the time, was the co-pilot of the ill-fated helicopter.

Having spent three years in training through IFTS and 2FTS, then 5SQN and HC723, I was finally going to sea as a Sea King co-pilot in HS817. Here I was, my first day at sea in the Navy on board HMAS MELBOURNE. One of the more senior members of the squadron
took me to the gun direction platform to watch real aviation; i.e., what happens on the flight deck of an aircraft carrier. I watched in amazement as the first aircraft, an A-4 Skyhawk came over the 'round-down' and took a wire. But I was even more amazed when the wire broke! The A-4 [N13-154909] departed the flight deck and without enough speed to keep flying, disappeared over the angle. LEUT Kev Finan USN (now airline pilot), ejected at the last possible moment and survived unhurt. I remember thinking; well I joined the navy for excitement but, wow! That was back in May 1979, and that same day, I too was to find out what swimming was all about.

Tail rotor fails and N16-098 is heading for the sea. Bob Geale RAN Rtd(Dec’d)

I was one of the crew that ditched in Sea King helicopter N16-098 well out to sea off Jervis Bay after our aircraft suffered a total loss of tail rotor authority. In addition to me, as co-pilot, the crew comprised LCDR Vic Battese (captain), LEUT Mal Wright (observer), and LSA Mick Skewes (air crewman).

The following account of what happened was my recollection of events drawn from an article I wrote soon after gelling a little more than feet wet. Hopefully, my grammar has improved a little.

Other than Vic, the captain, who was the squadron’s senior pilot, the crewmembers had all recently graduated from operational flying training. I was the wettest behind the ears and probably made a good representation of a clown on side show alley -eyes wide open and a gob to suit. Anyway, we briefed for an ASW sortie and covered all aspects of the mission and emergency procedures. The aircraft pre-flight didn't reveal any problems so we boarded, started the machine and departed from the ship in company with another Sea King. It was during the first transition to the hover that the observer and air crewman noted a strange
vibration coming from somewhere above their heads. As happens, us pilots up front couldn’t feel or hear the vibration but we tried a few more hovers to troubleshoot the problem. With no indication of a control problem, but the crew still voicing their concerns, Vic decided to abort the sortie and return to the ship.

*The 'fun' starts*

We arrived shortly after and established a hover off the port beam. Then, when we began to slide right, the vibration and noise increased so dramatically that even us pilots began to appreciate that we had a problem! The captain stopped the movement toward the ship, a move that probably saved our lives and the lives of many on the ship's night deck. Seconds later, there was a loud bang and the aircraft violently yawed right. Things were happening fast, real fast. Realising that the aircraft had lost tail rotor control, Vic called for me to retard the engine speed select levers. I remember being intrigued by what was happening, not hearing a word he said and basically going along for the ride. I just wasn’t prepared for this! Vic lowered the collective and we hit the water real hard. Tipping inverted, the Sea King rapidly filled with water. My words and feelings are not printable, but I'm sure you get the idea. As well as the problems we faced, the ship's crew had to contend with pieces of rotor blade flying in all directions across the flight deck.

After all movement ceased (well I think it had), I released my harness and attempted to jettison the window next to me. For some reason, my right side shoulder strap wouldn’t release and the window wouldn't jettison. Things were not going well.

Now, just as an aside, in 1979, the RAN didn’t have any such thing as Helicopter Underwater Escape Training (HUET), nor had the (Helicopter Emergency Egress Device (HEEDs) been invented - and we didn't have emergency escape lighting. We talked about how to get out but never practised it wet.

It was very dark, I was disorientated with the helicopter being inverted and I thought we were sinking. I couldn't get out of my harness and I couldn’t release my window. About then, I remember feeling a real sense of panic coming flooding over me. I really thought that this was it, I'm going to die. My first day at sea and I'm going to cark it in a bloody Sea King and I hadn't even been overseas!

I remember Vic also having problems and I probably wasn’t helping. I gave up and started to gulp water into my lungs. However, this resignation to my untimely end probably helped us. Vic released his dinghy and exited a 9-inch window opening (I thought it was my window but he reckoned it was his). I was now moving more freely and I released my dinghy and went for a window. I started to exit through the window but then my foot jammed between the seat and centre console. I re-entered the cab, got my foot free and somehow exiled the window with the dinghy in tow and floated or swam to the surface.

These days I work for the Bureau of Air Safety Investigation. Now, BASI doesn’t like the term 'luck', but, sorry, I was lucky to survive. However, I will remember the lessons I learnt that day for the rest of my life.

In the original article, which I wrote nearly 20 years ago for RAAF Spotlight, I highlighted the problems that I experienced, particularly those concerning my equipment. Perhaps not surprisingly, the problems facing any one in a ditching situation today haven’t changed
much; disorientation, exacerbated by survival equipment problems, may well lead to panic. Disorientation will always be an issue and training is probably the biggest factor in overcoming it.

Sure, improvements in lighting will help, but it all counts for nought unless you have the basics weighed off. There is no replacement for HUET and the more times one can practise the escape drills wet, the greater the chance of survival in the real situation. And the training doesn't stop with the occasional HUET. After my little experience, on those occasions when I found myself flying over expanses of water, I realised that I was mentally practising the escape procedures and noting where everything was.

At the time, the bulkiness of the equipment, the snagging of the old helmet visors and the springy mic-tel leads were identified as impediments to a smooth escape. Gladly, I can report that the RAN seems to have learned that lessons (just don't let the system 'unlearn ' them over time).

But what was the major lesson I learned that day? Rule No 1, don't panic. It is easy to say, particularly whilst I'm sitting here in front of my computer screen drinking coffee, but I can't emphasise enough the importance of not panicking. Again, HUET helps. HEEDs helps too (knowing it's there helps a lot). But, I keep thinking of that cartoon of the helicopter pilot who’s sweating it out because if it hasn't gone wrong yet, it's about to. You do have to be mentally prepared for the worst, because when you're least prepared, fate will strike.
I want to finish by quoting the last paragraphs of my 1979 report:

“Pre-planning and constant awareness can and will save your life. However, all this can be a waste of time if you panic. Control it and you should be okay. The rest you leave to Lady Luck, the better was your chances of living.”

This Story, written by Mark Ogden RAN Rtd, being originally printed in RAN FAA Touchdown 2/98, was kindly forwarded on by Dave Materson with his permission, for inclusion in this edition

N16-089 “01” History
First Flight 30/06/74. Previously registered in UK as G-17-1. First RAN Sea King Delivered. Delivered 02/03/75. Coded “901”. Was on board HMAS Melbourne, 'Spithead Deployment' 28/04/77 to 04/10/77 with HS817. Exercise 'Highwood' 5-20 July '77. North Sea VERTREP from RFA Stromness to HMAS Melbourne. Ditched in sea, 23/05/79 90 km East of Jervis Bay after tail rotor failed. Aircraft was performing an anti submarine exercise when the Observer LEUT (O) M Wright RAN reported unusual vibration and noise in the rear of the helo. Pilot elected to return to HMAS Melbourne and as the helo entered hover to land tail rotor control was lost and the aircraft crashed into the sea alongside the carrier. On hitting the sea it turned upside down and began to sink. Pilots LCDR (P) V. Battesee and LEUT (P) M Ogden escaped and winched to safety by Sea King (910). Rear crew LEUT (O) M Wright & LSA Skewes picked up by ships Gemini boat.

Plane mystery on Mt Ainslie: Canberra Times
Date: May 27, 2013 David Ellery Reporter for The Canberra Times.

Dave Wheeler, of Gordon, with the engine plate of a 'Series 2 de Havilland Gipsy Six' salvaged in his early teens from a plane crash on Mt Ainslie. Photo: Jeffrey Chan
Dave’s Story: The year is 1943 or thereabouts; a young boy named Bill Guard is hanging with his mates in Ainslie when they observe a plane in trouble. They rush to the site where it touches down and are turned back by official-looking people who brusquely tell them to bugger off.

Many years later Bill tells his nephew, Dave Wheeler, that when they arrived, the plane had already been cordoned off and that it was being examined by men who may have been mechanics or emergency workers.

Dave, who now regrets he didn’t press his now deceased uncle for exact details of the landing spot and a description of the plane, has been unable to turn up any references to a plane either crashing or being forced down on the slopes of Mt Ainslie during the war.

Bill’s account can’t be dismissed as a boyhood fantasy however; a bit of a larrikin in his younger days he seized the opportunity to secure a souvenir.

"Bill and his mates hid behind some nearby bushes to watch the proceedings but they never found out if the pilot or passengers had been killed, injured or walked away," Dave told Gang Gang. "It was wartime and there may have been some secrecy involved as it may have been an RAAF plane.

"When the officials left the scene and night began to fall the boys crawled through the barriers and took souvenirs. Uncle Bill had a screw driver with him and when he saw a nice brass engine plate he unscrewed it and kept it for many years before he passed it on to me."

Dave recalls that when he first saw the plate it had a wooden backing behind it. While this has subsequently disappeared, it indicates the object was probably attached to the engine cowling or fuselage and not directly to the engine.

The plate is quite distinctive and identifies the engine as ”Series 2 de Havilland Gipsy Six” which was in use by aircraft being used by the RAAF at the time. The most likely suspect is a de Havilland 89a Dragon Rapide, nine of which saw service with the air force during the war.

Another possibility is a De Havilland DH-86, a larger and faster plane than the Dragon Rapide which also used the Gipsy Six engine, albeit the Series 1 variant. Eight DH-86s saw service with the RAAF during the war but there is no record of any of these or the Rapides ever making a forced landing in Canberra.

That doesn’t mean such an event did not occur, however. Both types, which were mainly used for transporting officers and officials, would have flown into Canberra quite frequently. Bill Guard’s home, at 6 O’Connell Street in Ainslie, was not far from the ”saddle” separating Mt Ainslie from Mt Majura that planes flying in from the north-west would have had to clear to reach Canberra airport.

The Gipsy Six was never used in either the Gypsy Moth or Tiger Moth de Havilland-engine trainers that buzzed around RAAF training airfields by the dozens during the war. Its only application was in large, long-distance passenger and transport aircraft.

Dave Wheeler has made many attempts over the years to get to the bottom of his uncle’s wartime adventure. "I wrote to England trying to find out what sort of plane the engine plate came from," he said. "I was told they didn't have any records that could assist although they did say it was not from a Gypsy Moth."

RAAF historians are also stumped. "I did check the information and photos I currently hold on the Dragon Rapide and found no mention of a crash," one recently wrote to Dave. "There were a number of aircraft that were fitted with a Gipsy Six engine and unfortunately I do not have a complete history of these aircraft."

If any readers can help, please contact Gang Gang at The Canberra Times by emailing david.ellery@fairfax.com.au
A young Bill Guard III Pictured. Photo: Jeffrey Chan: The actual DH Plate: Engine#4189

Questions@ADF-Serials.com.au’s Final condensed reply following request from Peter Dunne’s Australia @war site (We’ve work together helping each other for more than 12 years, Editor)

Subject: Fw: Which aircraft as this? Canberra
One small matter Chaps, I’ve just realised, per Gypsy Six Mk2s, concerning RAAF Aircraft installations! DH84s had Gypsy Majors! (Can’t be A34-10 that crashed 6 miles s/w of Canberra)
I should point out the engines are only found on DH89s and that the 7 aircraft used, (A33-1 to 33-7, had Engine serial numbers in 6*** Series Small point, but will check other types excluding DH aircraft
Found it after realising my error; it’s off an Australian Built CAC Gannet A14-5 with eng#4145 and 4189, serving with 2AAU, following take-off the port engine failed, and forcing it to land on Mt Russell, some ½ mile from Strip.

Gordy

Tugun /CAC Gannet A14-5; the aircraft in question.
**ROYAL AUSTRALIAN AIR FORCE**

**PRELIMINARY REPORT (INTERNAL) OF FLYING ACCIDENT OR FORCED LANDING**

| (a) AIRCRAFT: | Type: Gannet  
| Number: A.14-8 |
| (b) UNIT: | No.2 Air Ambulance Unit. |
| (c) LOCALITY: | Place: Mt. Russell, Canberra.  
| Date: 16.6.42  
| Time: 1325 hours E.S.T. |
| (d) PILOT: | Flight Lieutenant.  
| Name: B.W. Graham.  
| Condition: Injured - fractured ankle. |
| (e) CREW: | Rank:  
| Name:  
| Condition: |
| (f) NATURE OF ACCIDENT: | Forced Landing. |
| (g) PROBABLE CAUSE: | Port motor failure. |
| (h) EXTENT OF DAMAGE: | Airframe: Believed write off.  
| Engine: |

**Date:** 16.6.42  
**Serial No.:** 1216  
**Period:** 1941/42  

Copies for information to  
C.A.S.  
A.M.P.  
A.E.M.  
Secretary, Air Board  
D.M.S.  
D.T.S.  
I.A.A.  
D.T.  
D.S.D.  
File (D.T.)

Air Commodore,  
DIRECTOR OF TRAINING.
RAAF E/E-88 Cards per A14-5 below

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Bottom Right Corner of each Card: Eng#4145 and 4189 (Original Installed Port Eng was #4146)
AMSE Record Writeoff per File Register entry per 9/16/409 &417 quoted above on E/E-88 Card
Curtiss Corner, Kittyhawk A29-159

P-40E-CU FY41-5647 CW#667 c/n16639 49th PG TOE Reco: 6/03/1942 RAAF Serial A29-159
Group#81 Unit: 9thPS/49thPG Del by Ship: SS Hammondsport: 26/02/1942 Off USAAF: 7/09/1942
W/O LEFT: 31/10/1944

Black ‘262’ /White #81 Named: “Skeeter”/US Pool. History: Project“X” 01/01/42 “X” 26/02/42 off LEFT
31/10/44, 1st Lt John Landers 9th FS 49thFG 2/4/42 to 04/06/42 Eng# 41-36473 Darwin NT. ‘Big John’ Landers
was involved in shooting down ‘Betty’ T-361 over Cox Peninsula, NT on 4/4/42. Current with 9thFS 07/08/42.
Latter on 7/9/42, issued to RAAF as A29-159 and served with 75 (Coded “C”), 82 Sqs and 2 OTU; On 17/10/42
it was received by 75 Sqn from 12 RSU after initially being allocated to 76 Sqn and spending an undue amount
of time u/s at the RSU; on 19/2/43 it was received back at 75 Sqn from 12 RSU after being with the latter for
about 10 days for repairs and was now coded ‘C’ with 75 Sqn with ‘Skeeter’ under the port exhausts and under
that a funny looking Mozzie painting which was painted on while with 9th FS USAAF; on 14/10/43 it was
received by 82 Sqn from 10 RSU where it had been for modification to the glycol system however its time with
82 Sqn was measured in days before being issued to 2 OTU; on 28/7/44 it was transferred to the stores reserve
and received by 1 CRD on 7/8/45; on 8/4/48 approval was given for it to be destroyed on the Werribee
bombing range. Pictured in USAAF service with Landers, and in the RAAF at Milne Bay, respectively, below.
No.8 Squadron RAAF first saw action within hours of the outbreak of war in the Pacific on the 8th December 1941 when its 12 aircraft attacked Japanese shipping off the northern coast of Malaya.

The squadron suffered heavy losses from anti-aircraft fire and Japanese fighters in the first days of the Malayan Campaign, during which time it undertook bombing and reconnaissance missions, and as there were no further aircraft to replace its losses, the squadron was amalgamated with No. 1 Squadron RAAF in late December, 1941.

The amalgamated squadron continued operations throughout the month, before No. 8 Squadron handed its remaining Hudsons to No. 1 Squadron RAAF in mid January 1942 and was evacuated to Palembang in Sumatra where it received replacement Hudsons from Australia.

Further replacements were six aircraft from No. 59 Squadron RAF, as well as their crews, who had been reassigned and sent from the UK between December 1941 and January 1942. With the new force, they undertook further reconnaissance and bombing missions, during which the squadron continued to suffer heavy losses until No. 8 Squadron RAAF was disbanded at Batavia on 16th
February and its personnel returned to Australia. Thereafter, the remaining Hudsons in Java came under No 1 Sqn RAAF’s control.

**Just one RAF Hudson story**

At the end of December 41 and in early January 42; 18 Hudson MkIII a/c from 59 Squadron RAF left from Portreath in Cornwall to deliver their Hudsons to the Far East. One crew was; Pilot P/O P.W. Smith, Observer, Sgt Ian Robinson, WOP/AG Sgts P Barret and Lionel Lane DFM. Their a/c was Hudson AE 506. One of 124 Hudson MkIII ordered under BPC Contract A-68

Their destination was Singapore but due to the situation in the Far East (Japan had just entered the war) only about half of the crews reached there. These crews and Hudsons very soon were sent to Palembang in Sumatra. The crew of AE506 reached Rangoon on 24th January 1942 and were then diverted to Palembang, as the airfield at Singapore was then in the range of enemy guns.

One crew member, Phil Barret had been taken ill and was left at Karachi. At the next stop Allahabad they picked up Sgt James Golton to replace him. His aircraft (Pilot - P/O Ayres) had crash landed in a sand storm. The a/c was u/s but all the crew survived. (Excerpt from 59 Sqn RAF Assoc)

Only seven of the eighteen Hudsons of No.59 Squadron RAF that left England in early January 1942, arrived in Sumatra. Some of the missing bombers crashed in the Mediterranean, some in Africa, some in Burma, and some on landing in Sumatra. Only nine of eighteen from 139 Squadron RAF (to re-equip 62Sqn RAF) made it as far as Malaya in January 1942, though those arriving as far as Burma, eventually operated there until late 1942

Those Hudsons MKIIIs that reached Malaya were: AE485/AE488*/AE506*/AE510*/AE511/AE521 (62Sqn RAF, lost Java)/AE525*/AE529*(lost at P1 22/02/42)/AE530/AE551/AE553* (lost 28/02/42)/AE583*(lost Semplak 22/02/42)/AE592/AE602*(lost off Endau 26/01/42 by No1 Sqn RAAF)/AE604/AE607

* Those are some of the RAF Hudsons that served in No1 and No 8 Squadrons RAAF to the end of the Java campaign.

- Some that were lost on route were: AE491/AE517/AE582/AE589/AE603.
- Some of those that made it as far as India and re-equipped 62Sqn RAF in April 42: AE512/AE523/AE569/AE574/AE580/AE601

Only ex-139 Sqn RAF’s AE488 survived the short campaign, along with the RAAF’s remaining Hudsons based in Java, A16-26 and A16-89, reaching Australia by air in early March 42. It was later taken on RAAF Charge as A16-222.

Surprisingly this special Hudson may have been the last operational Hudson Bomber in the world as it ended its days with the Israeli Defence Force in 1949!

**ADF-Serials Data:**
Ferried out from the UK by air as part of 52 reinforcement RAF Hudsons (per RAF direction 23/12/41, Singapore Conference) promised to Malaya. These were ferried out by 59 and 139 Sqns RAF in December 1941 and January 1942. These were to maintain the strengths of 1 Sqn RAAF, 8 Sqn RAAF, 62 Sqn RAF and a newly transferred 59Sqn RAF. Some 29 Hudsons were in transit by the 14th January 1942 or on their way from the UK, via Middle East, Iraq, India and Burma. Not all 52 made it as far as Burma. Only 16 made it as far as Malaya. At least 5-6 RAF surviving RAF Hudsons served in combined 1/8 Sqn RAAF during February 1942 in Sumatra and Java. Flown out by RAAF 15sqn Crew 05/03/42 to Western Australia. Rec 1AD ex NEI 13/03/42. Allotted to 7Sqn RAAF for training. Rec 7Sqn RAAF 12/05/42. Rec 1OTU 29/06/42. Rec 1AD ex 1OTU 17/09/42. Rec 6Sqn RAAF 28/09/42. It was in service at Horn Island at this time. Allotted 15 RSU 15/10/42. Rec 6 Sqn RAAF 15/11/42. Rec 5AD 25/11/42. Required fairly extensive repairs at this time with 5AD. Rec 1OTU 02/04/43. Rec 7AD 02/12/43. Rec 1OTU 21/01/44. Rec 2AD 03/10/44. Rec 1OTU 13/05/45. Rec 2AD Store 29/02/46. Sold through CDC 16/04/47 to Mr L. Van Pragg for £1000. Became VH-BLB 12/11/48 before being ferried to Palestine early 1949. Struck off Register as "improper sale overseas" by DCA.

Presumably destroyed in combat or subsequently scrapped when in service with the Israel Defence Force, on the 30th December 1949.

One that was not so lucky to get away: A Captured RAAF (I think due to larger overspray of fuselage and under wing Roundel) or RAF Hudson in Java, as tested by the IJAF in mid 1942. Records indicate that this may well happened to AE506, abandoned March 42, Java.
B-24J-155-CO A72-31 MJ-V “King Cobra” of 21Sqn RAAF

Close up of A72-31’s nose
RAAF Liberator Grave Yard and un-identified B-24J-5-NT “Snooky”

B-24D-20-CO A72-10 “Rio Rita” of 7 OTU

Next Issue, the spring 2013 edition, will be out circa late August 2013.