# ADF Serials Telegraph News

**News for those interested in Australian Military Aircraft History and Serials**

*Volume 5: Issue 4: Summer 2015* *Editor and contributing Author: Gordon R Birkett, Major Author and Contributor; John Bennett*

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## News Briefs

- ***13th July 2015:*** The sixth KC-30A Tanker aircraft designate for the RAAF, Airbus A330-203 **VH-EBH "Hunter Valley"** , arrived at Getafe Spain from Singapore. It was delivered all white following a service and stripping of QANTAS Colours after its arrival there on 12th May 2015. On completion, it will become A39-006, the first conversion of a second hand A330-200 into a MRTT. Up until now, all 50 ordered MRTTs have been new. he RAAF decided to use these particular aircraft as they are extremely close to the same basic specification as the KC-30As already in service. Update: 25th September 2015: KC-30A A39-001 made 59 'contacts' with F-35A development aircraft AF-4, five of which were 'wet', transferring a total of 42,000lb of fuel . Photo: Airbus

- ***August 2015:*** The RAAF's Fleet of six E-7As have finally achieved Final Operational Capacity, some 78 months (6 1/3 years) after the first original schedule.
- ***30th October 2015;*** First aerial firing of F-35A's GAU-22/A 25mm in flight: in three bursts; 30 rounds, then two 60 round bursts. 100% Reliability.

- ***6th September 2015***: Air 5428 Pilot training System has been won by Lockheed/Pililatus/Hawker Pacific's Team 21's PC-21 Turbo Trainer. A total of 49 aircraft will be sourced, with 22 to operated in the east coast at Sale, Victoria. The 100th PC-21 was roled out in March of this year. The Republic of Singapore's PC-21s are already based in Pearce WA, with Hawker Pacific providing the *insitu* maintenance. This will provide an already maintenance facility when the balance of 27 plus are based there with 2FTS.


*First PC-21 Prototype flying in 2008. Pililatus*

- **RAAF C-17A news:**
  - the seventh RAAF C-17A **A41-213** was accepted on the 21st July 2015 and delivered to Amberley on the 29th July 2015
  - 22nd November 2015:A RAAF C-17 Globemaster, **A41-208**, has delivered over 12 tons of cargo including a Hägglunds tracked vehicle to Wilkins Aerodrome, Antarctica, in support of the Australian Antarctic program.

  - the eighth RAAF C-17A **A41-212** was accepted on the 1st September 2015, but only landed at Amberley on the 2nd November 2015

*Photos: Defence/kenb301*

- ***13th October 2015;*** NH Industries celebrated the delivery of the 250th NH90 military helicopter. Over one ninth of these deliveries (33 of 47 ordered), have been made to the Australian Army as MRH-90 Taipans.
- ***Back to the future??? : <u>And already four to six months late:</u>*** The forthcoming 2015 Defence White Paper will be released in “due course”, early 2016, Minister for Defence Senator Marise Payne told an Estimates hearing of the Senate Foreign Affairs, Defence and Trade Legislation Committee on 21st October 2015.

# THE LAST THREE - Part 2 *by John Bennett*

**how the RAAF, Army and Navy serial numbers have been derived**


**The "A third series" and naval "N" numbers**

In Part 1 of this series, we saw how the Australian military "A" series, started in 1921 to identify RAAF aircraft, had been devised as a *simple sequential numbering system* - but as it had been a ***reusable system*** it soon became unduly confusing. This was realised after some "A" group blocks had been reused (e.g. A1, A2, A3, etc) - and what we know as the "first series" had merged into what we know as the "second series". There had been no conscious decision in the early 1930s to restart a "second series" *per se* - I pointed out that reusing these "A" groups had not started a "second series" but had been the ***original reusable concept*** of the RAAF equipment identifier system. Hence, when some of the "A blocks" (up to A12) had become vacant and then been reused, it made the numbering confusing. So the reusable concept was dropped and unique numbering continued up to A100, reached in 1960. To add to the confusion of reusing numbers, some vacant groups that had been unused were revisited and used out of sequence, making some 1944 acquisitions appear that they were in a continuum with aircraft acquired at the beginning of the War.

So up to 1960, we could argue that there was only one series, with the earlier "A" groups being duplicated by reuse. However, I pointed out that for simplicity and continuing with conventional wisdom, we would accept there were two series (as catalogued by ***adf-serials***) and the "third series" of "A numbers" was about to begin.

**Anomalies.** Although this could have been an extremely simple serialling system, the "A" series became unduly complicated, as I have pointed out, because of its nature to reuse vacant serial groups. Another complicated feature was when one aircraft was allocated one or more serial numbers, or the opposite when one serial number was carried by up four different aircraft.

- D.H.60 Cirrus Moth c/n 613 A7-9 (associated with the "first series") had been sold commercially and was subsequently impressed for War service, back into the RAAF as A7-92 and associated with the "second series" – perhaps justifying my argument that this was all just one series.
- Gannet c/n TA.53 was first A4-1 but immediately reserialled A14-1, subsequently sold, and then impressed as A14-7. Perhaps we should not be surprised that the RAAF could not follow the various Gannets' provenance histories, as it has taken many decades for the likes of us the fathom out the complete picture!

- The Sycamore was originally placed in the A80 “helicopter” group with the Sikorsky S-51 (A80-1) and allocated A80-2, but was subsequently reserialled as A91-1.
- The serials A3-1 and A3-2 are very interesting. First as the (1) Avro 504K, then as the (2) D.H.89 Dragon Rapide, the (3) CA-2 Wackett prototypes, and then the first two production (4) CA-6 Wackett trainers. Moreover in the “third series”, these numbers were used again for the first two Mirage IIIO fighters that were imported from France. Use of these serials by five individual aircraft – yes, used **five times!**



*Wackett Trainer A3-1 above, with DH-89 A33-3 with DAT, (Directorate of Air Transport), below; was A3-1 in 1935 for six months. ADF Serials*

In Part 2, I will address this RAAF "third series", which has been adopted by Army, and adapted and then fully integrated into the sequence by Navy as their "N series".

The basis of this article is a series I wrote in *Australian Aviation* magazine from September 1992 until May 1995, which covered A1 up to A26. Since then, the latest details of newer acquisitions (up to A52/N52) have been gleaned from our ***adf-serials*** website.

**The "Third A Series" Sequential Numbering**

Allocation of the aircraft's individual number within an aircraft "A" group was covered in Part 1, and many of these serialling methods continued into the "third series" – e.g. sequential numbering (but with a twist), block numbering, and the c/n last three. In addition there have been cases of using the last three of an aircraft's previous identity, some cases of reserialling, and the Army's concept of "century" numbering. Simple sequential numbering was intended to be used when large numbers of an aircraft type were being acquired, something like a new fighter type.

**-1 Simple Sequential.** This applied to A3 (Mirage IIIO) with aircraft numbered A3-1 to A3-100. Trainer Mirage IIIDs were A3-101/A3-116. This was the same for A21 (F/A-18 Hornet), using numbers A21-1/A21-57 for F/A-18A fighters, and A21-101/A21-118 for F/A-18B trainers – but perhaps this borders on a "block system".


*Mirage A3-1 inside RAAF Hercules A97-208 on arrival 23rd November 1963.ADF Serials*

-**01 Two-number Sequential.** A unique numbering for A27 (Hawk), which were serialled A27-01 to A27-33.

**-001 Three-number sequential.** This is the most common sequential system used today. This has been used for the following "A" groups: A7 (Macchi MB-326H), A15 (CH-47C Chinook, but see also block numbering), A17 (Kiowa), A22 (Squirrel), A23 (PC-9/A), A30 (E-7A Wedgetail), A32 (King Air 200, but see below for also c/n numbering), A34 (C-27J Spartan), A35 (F-35A Lightning II), A36 (737 Business Jet), A37 (Challenger), A38 (Tiger ARH), A39 (KC-30A MRTT), A40 (MRH-90 Taipan), and the latest is A53 (a Beech 1900C operated by DSTO).

**The "Third A Series" C/n Numbering**

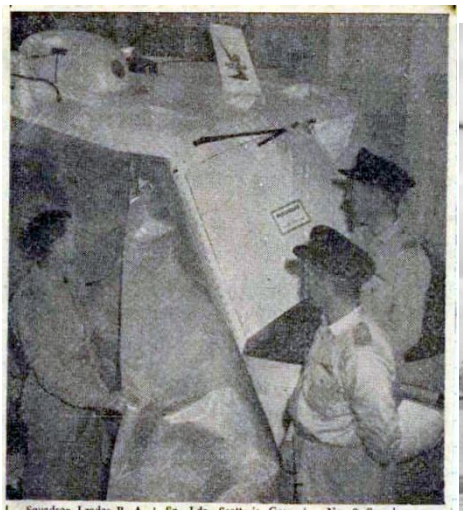
The other common serialling in the "third series" has been the use of the "last three" digits of the constructor's number (c/n). As started towards the end of the "second series", the last three of the c/n identified an individual aircraft within an aircraft group. Straightforward enough – but there has been some deviations, conflicts, reuse and reserialling.

**A1 – 47G Sioux.** Acquired for the Army from over 1960-61, the first batch of 47G-2 were serialled A1-560 to A1-570 (Bell c/n 2560/2570). Following on from A100, there evidently was discussion of whether the "A" group assigned should be "A101", but space on the Sioux fin precluded such a lengthy number, so A1 was used. Subsequent attrition 47G-2A (A1-660, -662 and -721) were similarly numbered, as were the newer 47G-3B-1 models (between A1-394 and A1-738). But an anomaly occurred – 47G-2A A1-721 (2721) crashed in 1962, and a 47G-3B-1 was again serialled A1-721, somehow derived from its c/n 7401! This was because with the last batch of 47G-3B-1s there was a conflict of c/ns with previously allocated numbers - 47G-3B-1 A1-720 (c/n 6672) conflicted with the previous 47G-2A A1-672, and using the c/ns of A1-721/A1-738 (c/n 7401/7418) would conflict with the previous A1-401/A1-410 series. Okay, this is getting confusing, and into this mix was added that Army wanted to run with a unique "century" last three system – the Sioux 47G-3B-1s were to be renumbered A1-201 to A1-252 (see below, Army "century" series).


The second A2-721 photographed in 1972, a B47G-3B-1 with c/n 7401 repeating the earlier Serial allocation of A1-721, a B47G-2A, c/n 2721 that was destroyed in PNG during 1962. ADF-Serials vis Bob Livingstone

**A2 – UH-Iroquois.** The first batch of eight UH-1B were A2-384/A2-391 derived from the Bell c/n 384/391. Then followed A2-714/A2-721 (c/n 714/721) and A2-1018/A2-1025 (c/n 1018/1025). This is interesting as it used the "last four", or in fact the whole, of the c/n. Because of the limited space available on the fin of the Iroquois, it is surprising

that the serials A2-018/A2-025 were not used instead. This is fairly simple to this stage but does get more complex. The UH-1Ds delivered to Australia were numbered A2-505/A2-510 (c/n 9505/9510), but two had been delivered direct to 9 Squadron in Vietnam. These were A2-649 (c/n 5649) and A2-041 (c/n 5085), with the latter initially numbered from its previous US Army serial 65-10041. This error was recognised about six months later, and the serial was changed in accordance with the c/n as A2-085. Later UH-1H aircraft used the last three of the c/n – e.g. A2-766 to A2-773 (c/n 9766/9773) – but when batch A2-484/A2-490 was delivered, their c/ns 11772/11778 conflicted with earlier aircraft and so the ex-US Army serials 69-15484/69-15490 were adapted to RAAF serials.




*Brand new A2-384 awaits to be unpacked in 1962, and on its first hover and flight ,5th November, 1962. GRB/AWM*


*B&W "85" is actually a shorty, UH-1B A2-385 , with "last two" "85" on nose at Butterworth,; with the real UH-1H, A2-085 on right. Confusion to the end at ADF-Serials: GRB/ADF-Serials*


*Got it right first time: A2-649 in Army 5AAV Colours: ADF-Serials*

**Other simplified c/ns.** Other aircraft groups using "last threes" from the c/n were A4 (Caribou), A5 (Alouette), A6 (Viscount), A10 (HS.748), A11 (Mystere), A12 (BAC-111), A14 (Porter, with some changes, below), A19 (CT-4A), A20 (Boeing 707), A26 (Falcon 900), A32 (King Air 350), the RQ-7B Shadow UAV (A43) and Heron UAV (A45).

**A14 – PC-6B Porter.** The Porter was initially allocated last threes agreeing with the aircraft c/n. However, when c/ns 725, 729, 730 and 731 were delivered, these "last threes" were found to conflict with 47G-3B-1 aircraft A1-725/A1-731 and Army was trying to introduce a policy of unique "last threes" across all aircraft types. Therefore these final four aircraft were renumbered A14-702 to A14-705.


*PC-6B Porter A14-704, ex A14-730 c/n 730. ADF-Serials via Evan Sawyer*

**A16- AH-1G-BF Cobra (Editor Entry)** On March 10, 1970, the Minister for Defence announced a comprehensive helicopter acquisition program for the RAAF and the Australian Army which was to include 84 Light Observation Helicopters (LOH), 42 Utility Helicopters (UH) and 11 Helicopter Gunships. In December 1970, the AH-1G Huey Cobra was selected at a program cost of $12.4m and the A16 serial prefix was allocated to the type for RAAF service. It is probable that these aircraft would have been diverted from the U.S. Army production batch serialled 71-20983 to 71-21052 (MSN 21054/21123) delivered in 1973. As it turned out, the RAAF AH-1G order was cancelled on October 7, 1971. The RAAF and Army soldiered on with the UH-1H Bushranger until a dedicated type was selected decades later in the form of the Eurocopter Tiger ARH. Meanwhile the A16 Serial Block was used as the Technical Maintenance Code for the RAN FAA's N16 Seaking.

*NB: one of these production Block AH-1G, later a AH-1S conversion, 71-21018, resides at the Darwin Air Museum. Four of an eventual Eight new-build AH-1Gs known as Z.14, from this FY block also (71-15090 to 71-15093/72-21461 to 71-21464), entered Spanish Marina service, and were used until 1985.*

**A32 – King Air 350.** The King Air 200s were initially serialled sequentially, A32-001 to A32-004. With the arrival of greater numbers of King Air 350 aircraft, these used the c/n system – between A32-339 to A32-675 (c/n FL-339 to FL-675).

**The "Third A Series" Previous Identity Numbering**

Apart from the glitches with UH-1D A2-085 (mentioned above) and the UH-1H batch A2-484/A2-490, the use of the last three of previous identities has been restricted to the F-111 (A8), P-3 (A9), and more recently the C-17 (A41). When bought through Foreign Military Sales (FMS) from the US Govt, it is useful to stay in lock-step with US upgrades and modifications through the lifecycle of the weapon system. Now this has not always occurred – Australia had taken onboard some mods with the F-111 and the P-3, but had largely gone its own "orphan" way. Look at the mods with F-111 for the recce RF-111C upgrade, the Harpoon enhancement and eventually the AUP

upgrade. All good for the Australian strategic environment, but expensive with a small orphan fleet. Same with the P-3, we maintained standard with the US Navy fleet for a while, and then undertook the very comprehensive (and very effective) AP-3C mid-life upgrade. That gave Australia the most capable P-3 in the world. But again, with a lot of Israeli kit, it was an orphan and not easy to support.

With the C-17 we will probably go a different way. We should stay across the USAF upgrades, and the P-8A will probably be the same with any USN enhancements. That is why previous identities are important for airframes to be tied to US updated Technical Orders (TOs), and to simplify this the previous identities not only form the “last three” but also may appear on the airframe. With the P-3, the USN Bureau of Aeronautics (Bu) number was marked with the RAAF A9- number on the rear fuselage. With the C-17, the USAF number is carried on the nose. When the P-8 is delivered, the USN Bu number would in all probability also be carried with its RAAF A47- number.

**A8 – F-111.** The first batch of 24 F-111C aircraft were numbered A8-125 to A8-148, previous USAF serial allocations being 67-0125/67-0148. Subsequent acquisitions of F-111A and F-111G aircraft followed this pattern.


*Above A8-125, our first F-111C in No 1 Squadron Colours, and with Pave Tack. Original USAF Serial was FY67-0125, with GD Line #D1-1. Below, Former USAF FB-111A and F-111G USAF FY68-0265, became A8-265 on entry to RAAF. ADF-Serials*

**A9 – P-3 Orion.** The first batch of ten P-3Bs were A9-291/A9-300 derived from the USN Bu numbers 155291/155300. Subsequent P-3B and P-3C acquisitions also followed this pattern.

With original RAAF P-3B A9-296 destroyed in US before delivery, a replacement USN P-3B was obtained. A9-605, reflecting last three from Bu No 154605. Pictured on delivery to Lockheed in 1985 at Edinburgh as "B-Keeper Special". ADF-Serials via Leigh Collins

**A41 – C-17A Globemaster.** This has generated some discussion on the ***adf-serials*** website. The first aircraft was A41-206, ex USAF number 06-0206. The last three of the USAF FY serials were used to number RAAF aircraft up to A41-211 (12-0211). Then with the last two “white tails” acquired by Australia, the allocated serials 14-0001 and 14-0002 became A41-212 and A42-213, which discounted the USAF numbers and continue the RAAF last three trend in a sequence.


*A41-206, USAF FY 06-0206, at rest, at Amberley. ADF-Serials*

**The "Third A Series" Block Numbering**

The Block Numbering system started in WWII for large numbers of aircraft to distinguish different models of a type has continued to some extent in the third series, and below are listed the examples.

**A15 – CH-47 Chinook.** The RAAF CH-47C helicopters were originally sequential A15-001/A15-012. When Army acquired four of these CH-47C rebuilt as the CH-47D, the numbers became A15-102/A15-106 aligned to their original RAAF numbers, i.e. CH-47C A15-002 became CH-47D A15-102. Further procurement of rebuilt US Army CH-47C/CH-47D became A15-151 and A15-152, and then new build CH-47Ds became A15-201 and A15-202.The newly delivered CH-47F variants are A15-301/A15-307.

*RAAF Originals in 1985, and brand new A15-301 in 2015. Still waiting to see if there are US Army FY Serials on these. ADF-Serials/Defence*

**A18 – Nomad.** The first batch of N22 Nomads were numbered from A18-303 (presumably as this aircraft was c/n 03), but others followed sequentially in this block up to A18-321. N24-series Nomad aircraft were numbered sequentially in the block A18-401 to A18-408.



*N22 A18-305 and N24 A18-408. ADF-Serials Via D Masterson/Grahame Higgs Respectively*

**A25 – S-70A Black Hawk.** The first batch of Black Hawk aircraft were numbered in the block A25-101 to A25-114. The second batch were in the block A25-201 to A25-225. The Black Hawk simulators and maintenance trainers are numbered A25-301 to A25-303.

**A44 – F/A-18F Super Hornet.** The "last three" block following on from the Hornet (A21) was continued for the Super Hornet. F/A-18A had been A21-1/A21-57, F/A-18B A21-101/A21-118, so the F/A-18Fs were numbered A44-201/A44-224. This is being further continued with the new group A46 for the EA-18G Growler, as A46-301/A46-312.

*EA-18G Growler LN #115 USN Bu No 169148 became Contract LN #AG-1, A46-301 for the RAAF: Australian Aviation*

**The Army "Century" Numbering**

As the RAAF had introduced post Korean War, the concept of the "century" numbering system was to allow identification of the airframe by its "last three" alone, irrespective of the "A number" group. This was to involve renumbering existing Army aircraft as detailed below, but although the allocations were made, apparently in 1969, the numbers were never introduced.

**100 – Cessna 180.** Although still in the "second series" in the A98 serial group, at least nine Cessna 180s were still in Army service, and this "century" numbering sequence apparently was to start with the Cessna 180 – remaining A98-045 through to A98-350 were apparently allocated the numbers A98-101 to A98-109, but I no longer have the evidence to be categorical about this.

**200 – 47G-3-1 Sioux.** A1-201 to A1-252 were allocated to all remaining 47G-3B-1 Sioux helicopters serialled between A1-394 to A1-738.


**300 – Porter.** The earlier deliveries of the Porter, A14-652 to A14-701 were allocated new numbers A14-301 to A14-315. These were never implemented, and by 1970 this idea was dropped.


*The Last Blackhawk, A25-303, is a maintenance trainer build up from parts. ADF-Serials.com.*

**Some "Oddballs"**

As we have seen, there have been some anomalies in the "third series" straying a little from the intended concept. Examples, some repeating the information above, are detailed below.

- **A1.** Sioux number A1-721 was used for c/n 2721, and then reused by c/n 7401. Furthermore with the Sioux, the intent had been to serial in a "c/n system", but with the delivery of 47G-3B-1 c/n 6672 the number A1-672 could not be allocated as it was still in service on 47G-2A (c/n 2672) and the serial A1-720 was invented! And the last batch delivered (c/n 7401/7418) could not use the "last three" as A1-400/A1-410 were still in use. Therefore their numbers deviated from the c/n "last three" and A1-721/A1-738 were allocated.


*A1-720, alias c/n 6672: ADF-Serials/vis Mark Clayton*

- **A2.** Iroquois A2-041 was renumbered as A2-085, after having used a previous identity in error instead of the c/n. Also the batch of A2-400-series Iroquois had to use previous identity "last threes" because of a serial conflict with in-service aircraft.

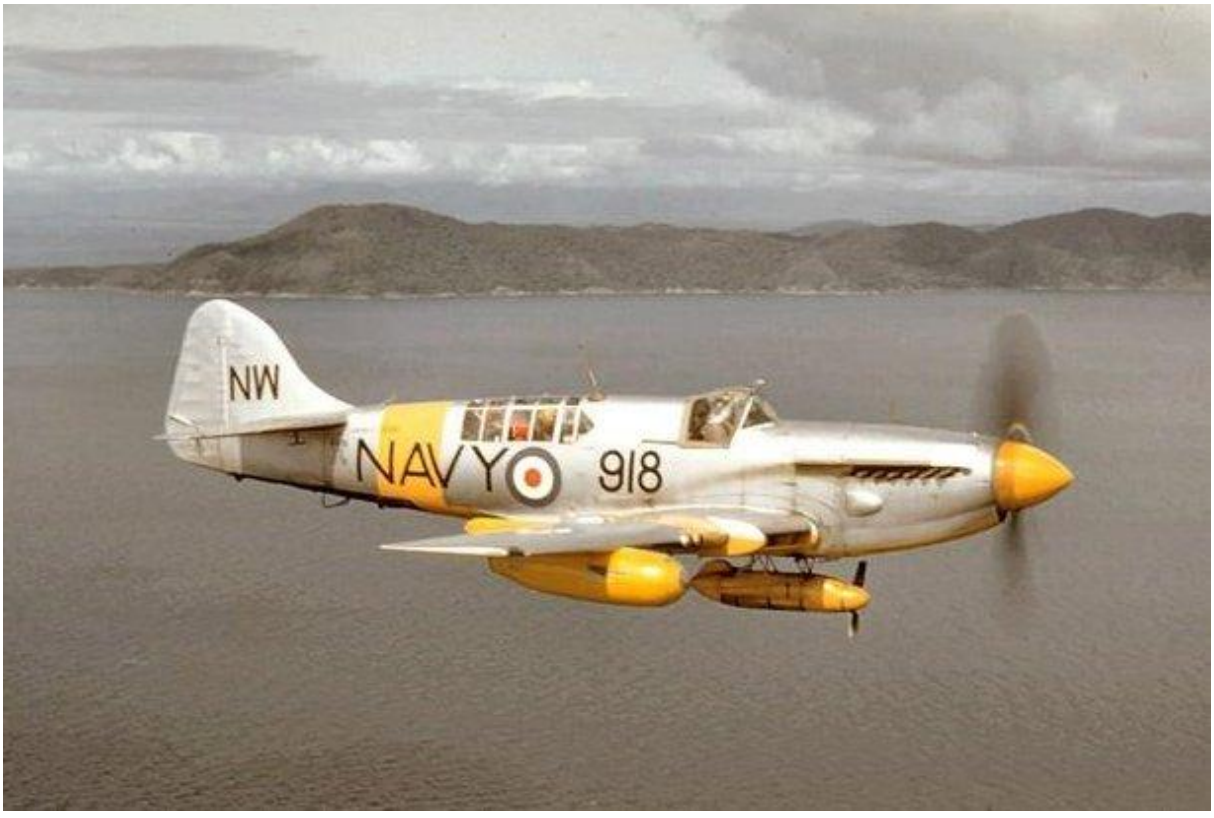

*UH-1H A2-484 used last three of US Army Serial FY 69-15484 as opposed to last three of its c/n 11772 , as it would have conflicted with UH-1H A2-772, c/n 9772 then in service. ADF-Serials via Garry Bridge*

- **A3.** The numbers A3-1 and A3-2 for the first two Mirages were the fifth time these serials have been used on different aircraft.
- **A14.** The last batch of four Porters received (c/ns 725, 729, 730, 731) had c/ns which conflicted with the "last threes" of in-service Sioux aircraft, and so the Porters were serialled A14-701/A14-704.
- **A41.** The C-17A serialling had been structured on the "last three" of the USAF number. But when the RAAF acquired its seventh and eighth airframes from the surplus "white tails" that were available, the allocated serials USAF 14-0001 and 14-0002 became A41-212 and A42-213, to continue the existing RAAF last three trend from A41-206 to A41-211.


**The Naval "N Series"**

The Navy commenced its unique "N series" in 1964 by adopting the RAAF serial numbers of existing aircraft, or using "last threes" of Royal Navy serials, or of constructors' line numbers. We shall look at these variations. This part is based on my original series in *Australian Aviation* from June 1995 until Jan/Feb 1997, which covered N1 up to N24. Since then, the newer details (up to N52) I have developed from our ***adf-serials*** website.

- **N1 – Firefly.** N1 was not carried, as with the "N" series starting in 1964, the Firefly had largely been withdrawn from service (WFS). Fireflies retained their RN numbers. The Sea Fury had at this time been WFS, so no "N" allocation was made.




*Firefly T5 VX376 in Flight. ADF-Serials*

- **N2 – C-47 Dakota.** N2 used the RAAF A65- last two's or threes – A65-23 became N2-23, A65-123 became N2-123.
- **N3 – Gannet AS.1/T.2.** Although remaining in service until 1967, N3 serials were not carried by Gannets, which retained their RN serials.
- **N4 – Sea Venom FAW.53.** The 37 Sea Venoms were delivered with RN numbers, WZ893 to WZ946. It is known that at least eleven of these were physically reserialled with the N4- group, e.g. WZ897 became N4-897.


*N4-935, ex WZ935. ADF Serials via Kev's Aviation Pics*

- **N5 – Sycamore.** Like other Navy aircraft of its era, in 1964 the Sycamore was being retired, and no N5- serials were ever applied.


- **N6 – Vampire.** The UK-supplied Vampire T.22 trainers had RN serial numbers, while the Australian-produced T.34/T.34A Vampires had A79 numbers. In the late 1960s, Vampire T.22 XG766 (coded '808') became N6-766 – and it is probable the registrations of the other remaining T.22s became N6-167 and N6-770. The A79-

numbered T.34As, however, did not receive the N6- prefix, as when the last Navy Vampire flight was made in October 1970, this was made by A79-842 ('805').


*Pictured after recovery wearing "A79" Prefix still. ADF-Serials*

- **N7 – Wessex HAS.31.** This was quite a simple transition. The Wessex had always carried its Westland line number allocated to Australian HAS.31 production as a serial number, they were WA200 to WA227 (often misinterpreted as RN serials). The WA was over painted with the N7- prefix.


*WA210, now reserialled as N7-210. ADF Serials via Dave Masterson*

- **N8 – Scout.** Similarly, the Westland Scout line numbers WS101 and WS102 had been worn as serials, and the WS was erased for the N8- prefix. However, a third Scout, Ex UK Army XR603, is painted up as N8-102.


*One of the pair that didn't fly as N8 number, N8-102, which as WS102 ditched as such in 1967. ADF-Serials*

- **N9 – UH-1B Iroquois.** The seven UH-1B delivered to the Navy were allocated N9-, with the last three or four of their Bell c/n. N9-881 was c/n 881, N9-3104 was c/n 3104.


*N9-881, which was lost tragically in 1968. ADF-Serials via Mike Mirkovic*

- **N10 – KD2R-5 Shelduck.** The original twenty Shelduck target drones were allocate N10-1/N10-20, while a follow-on batch were numbered N10-101/N10-110. Subsequent deliveries used c/n numbering, e.g. N10-7119 and above.

- **N11 – Jindivik 203/104.** These were also target aircraft, basically Jindivik Mk 3 and Mk 4 variants, and being serialled between N11-495 and N11-801.


*Jindivik N11-750. ADF-Serials via Martin Edwards*

- **N12 – S-2E/G Tracker.** The Trackers were delivered from 1967 with the six-digit USN Bu numbers. The N12- prefix was simply placed in front, to give a "last six"! Bu 153595 became N12-153595.


*The same aircraft, S-2G N12-152812, some forty plus years separating previous owners. ADF-Serials*

- **N13 – A-4F/A-4G Skyhawk.** Similar to the Trackers, Skyhawks too were delivered from 1967 with the six-digit USN Bu numbers. The N13- prefix was simply placed in front, so Bu 154903 became N13-154903.


*Ex-US Navy A-4F from the second batch, became A4G Skyhawk N13-155069. ADF-Serials*

- **N14 – Macchi MB-326H.** Naval acquisition of the Macchi was in batches between the Australian production of RAAF aircraft. After the RAAF received A7-072, Naval aircraft were N14-073/N13-078, then RAAF aircraft were A7-079/A7-083, followed by Navy's N14-084/N14-087. Later some swapping of RAAF aircraft did occur at HMAS Albatross, and the A7 prefix was not always changed to N14.


*N14-075 in RAN FAA Service, followed by as A7-075 with RAAF's 2OCU. ADF-Serials*

- **N15 – HS.748.** The two transports acquired, and later modified as electronic warfare trainers, were N15-709 and N15-710 (c/n 1709/1710).
- **N16 – Sea King HAS.50.** Westland constructor's numbers (c/ns) were used this time, instead of the Sea King line numbers. The first was N16-098 line number WA787, but c/n 98. The last aircraft N16-239 was line number WA930, c/n 239. An ex-RN attrition replacement was received and used its previous RN "last three": N16-918, ex XZ918 (line number WA878).
- **N17 – 206B-1 Kiowa.** Like the Macchi, the RAN serials fitted into the Australian production for the Army, but this time the group of N17- was aligned to the Army group A17-. The initial three for the RAN were N17-013, -025 and -049 (c/n CA32-13, CA32-25 and CA32-49). At least another five were transferred temporarily from Army, sometimes having the A17 erased for N17.

- **N22 – Squirrel.** These too fitted into the sequential numbering of RAAF (and later Army) A22-numbered aircraft. The first batch of six were N22-013 to N22-018, followed by Army aircraft later transferred to Navy.


*Originally Army A22-001 as photographed in 1984, and later in October 2000,when it became Navy N22-001. ADF-Serials*

- **N24 – S-70B Seahawk.** The Navy was now well embedded into this joint system of numbering and when N24 was allocated to the Seahawk, the RAAF did not allocate A24. With the RAN aboard with this system, when an "N" number is now used by Navy, its "A" number equivalent is left vacant but might be used for stores accounting for the spare components of the aircraft. Seahawks were numbered sequentially N24-001/N24-016.



*Sikorsky Seahawk "Tiger" S70B-2 N24-001 and Some tell tails signs of rear boom exchanges, N24-015 now with the recycled tail of N24-002 in place. Photos: Darren Reed and Daniel Leahy respectively*

- **N28 – MQM-109E Kalkara.** Twenty targets acquired for service between 1998 and 2008, serialled N28-1/N28-20.
- **N29 – SH-2G Super Seasprite.** The ill-fated Seasprite acquisition of eleven helicopters, which were to use the USN Bu numbers, were serialled between N29-149024 and N29-163210.
- **N40 – MRH-90 Taipan.** Some aircraft allocated to Navy, with "NAVY" markings but not with N40 numbers. The Navy aircraft are to be rotated with Army aircraft, and are serialled sequentially between A40-001 and A40-046.


*A40-019 carried both NAVY and ARMY Markings. Photo Brenden Scott*

- **N42 – A109E Power**. Four helicopters used the last three of the c/n: N42-129 (c/n 11129), N42-501 (11501), N42-505 (11505) and N42-510 (11510).


*N42-501 in flight. Photo George Canciani*

- **N48 – MH-60R Seahawk.** These "Romeo" variants of the Seahawk have sequential numbering N48-001 to N48-024, but will probably also retain their Bu numbers on the rear fuselage.


*Sikorsky Seahawk MH-60R N48-005 retains its US Navy Bu No 168818. Photo Unknown*

- **N49 – Bell 429.** Three replacements for the A109, using the last three digits of the Bell c/n: N49-047 (c/n 57047), N49-048 (57048) and N49-049 (57049).
- **N52 – EC135**. Fifteen new training helicopters for Army and Navy, to be operated from HMAS Albatross. Numbered sequentially N52-001 to N52-015.

Part 2 has considered the "third series" of "A" numbers, some unique Army numbering within the "A" series, and the Naval "N" series, adapted and now fully integrated as the whole ***adf-serials*** system.

# *The Malaya Emergency and the start of Konfrontasi: their input on RAAF Re-equipment Decisions* 1950/60's: Part 1

**Background**

In 1955 the RAAF Aircraft Mission, led by AVM A. M. Murdoch (later Australian Defence Representative in London), made four recommendations to make on its return from the USA and England: The F-104 was the fighter which most fitted RAAF specifications; the Vampire Trainer was the most suitable advanced training aircraft; the Viscount was the best VIP transport; and the C-130 Hercules was the right heavy transport.

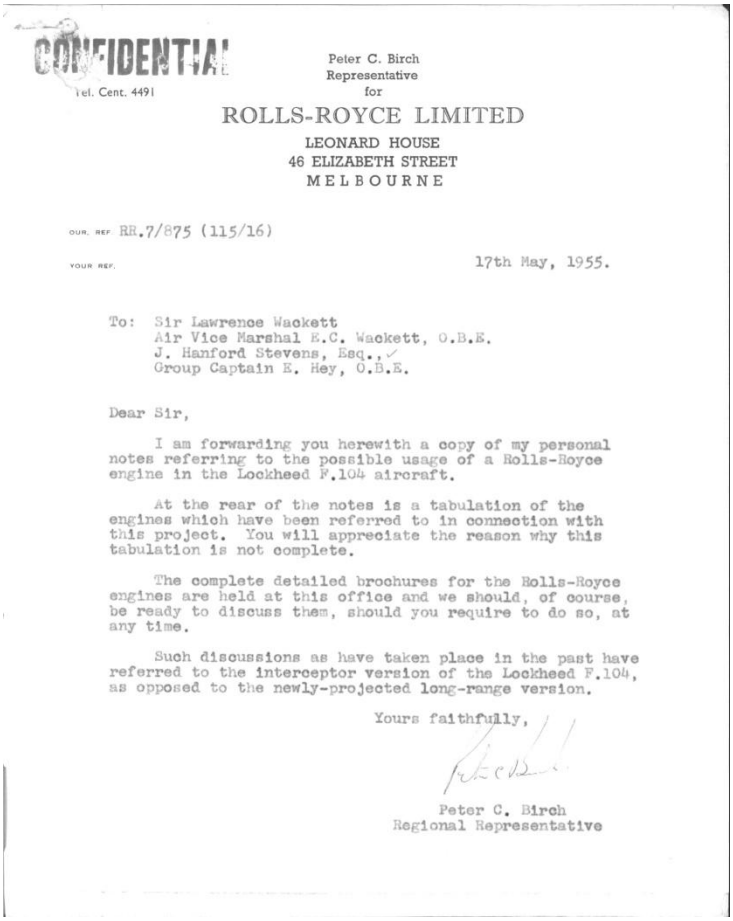
Lockheed Engineering Report #9854 stated that the Aircraft Model Number 183, now known by the USAF as F-104A, was deemed as the most suitable aircraft to replace the Avon Sabre (Ordered in 1950, accepted in 1954, though somewhat suffered delays until 1956)in pursuant to their goal of replacing the fighter force of three squadrons every four years to maintain currency of having the most modern fighter in service.


*The manned Missile, the F-104A complete with pilot in pressure suit. All period shots hid the Supersonic Shockwave intake Lockheed Pic*

The ninety one Avon Sabre were produced by 1958, and equipped three Fighter Squadron within 78 Wing, with second line DHA Vampires, Gloster Meteors and even third line CAC Mustangs equipping the five CAF Units.
The C-130A had no rival, so twelve had entered service by 1959, with another six to be ordered, but these would be later dropped due to funding constraints in 1959. The Vampire Trainer was quickly put into production by de Havilland at Bankstown, NSW.

Air Marshal Sir Frederick Scherger has never been an F-104 champion, and he was proved right by the indifferent record of the first versions, which lacked the flexibility the RAAF required. However, the much improved multirole F-104G, which has captured most of Western Europe, had impressed the RAAF.

There was no British fighter design the RAAF liked. They did like the Rolls Royce RA-24A Engine though, and wanted it originally if it could be fitted to the F-104A, per below NAA Docs. *(It was even was slated for the Mirage IIIO at one time)*



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Peter C. Birch
Representative
for
ROLLS-ROYCE LIMITED
LEONARD HOUSE
46 ELIZABETH STREET
MELBOURNE

OUR. REF. RR.7/875 (115/16)

YOUR REF.

17th May, 1955.

To: Sir Lawrence Wackett
Air Vice Marshal E.C. Wackett, O.B.E.
J. Hanford Stevens, Esq.,
Group Captain E. Hey, O.B.E.

Dear Sir,

I am forwarding you herewith a copy of my personal notes referring to the possible usage of a Rolls-Royce engine in the Lockheed F.104 aircraft.

At the rear of the notes is a tabulation of the engines which have been referred to in connection with this project. You will appreciate the reason why this tabulation is not complete.

The complete detailed brochures for the Rolls-Royce engines are held at this office and we should, of course, be ready to discuss them, should you require to do so, at any time.

Such discussions as have taken place in the past have referred to the interceptor version of the Lockheed F.104, as opposed to the newly-projected long-range version.

Yours faithfully,

Peter C. Birch
Regional Representative

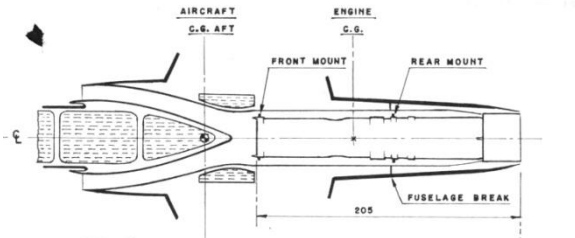



FIG. 12. G.E. J79-3 INSTALLATION IN F104A.

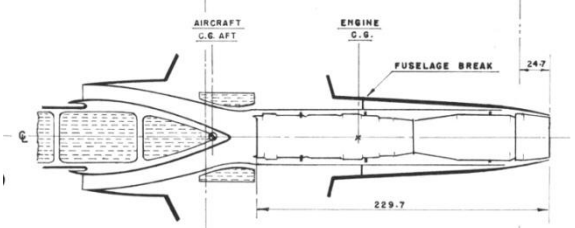



FIG. 13. RA-24R. INSTALLATION IN F104A.

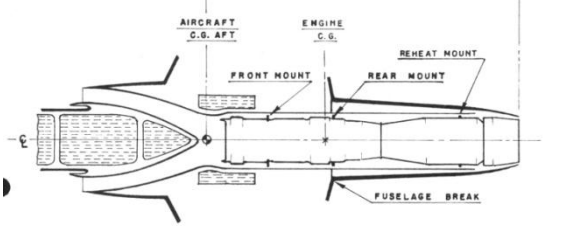



FIG. 14 ALTERNATE RA-24R. INSTALLATION IN F104A.

The then CAS, Sir John McAuley, liked the F-104, and but for his retirement an order might well have been forced through.

*The fighter issue would not be settled until November 1960.*

**The Ruestow USAF Mission 1958 2/**

***Back to October 1956 for a moment***, due to the issue of obtaining modern jet aircraft in the fighter and bomber role, the Minister for Air, and the Minister for Defence, Sir Philip McBride KCMG, requested that action be taken to approach the Government of the United States in requesting and obtaining Tactical Nuclear low yield weapons to be held in Australia, free of charge or at an agreed unit price, in the event of war.

The main reason behind this was that the Service's GAF Canberra Mk20's all up weight and bomb bay size could only carry either one 5000lb, or two 4000lb or six 1000lb bombs at any one time, and thus would have required a number of sorties per target to destroy any important target. With the introduction of Green Satin navigation equipment and the T.4 Bomb Sight, the aircraft had a radius of action of some 1100 nautical miles, but still limited by this lack of punch and blind radar bombing ability.

It was felt a more effective way to destroy a target was to carry a single Tactical Nuclear store inside the aircraft, since it was concluded, that the feature and the ability to do so was already incorporated into the design by the RAF Canberra B2/B6 and USAF B-57A models. Despite visiting the USA on a mission in 1957 by the Defence Minister, nil came to bear on obtaining or getting a satisfactory nuclear stores response under SEATO..

One result of the McBride USA Mission was the arrival in Australia late 1957 of an American technical mission, headed by Maj-Gen. Paul E. Ruestow, USAF, and including technical officers of all US Services.

This mission made an extensive and detailed study of Australian defence-industry potential and unconfirmed rumours were current that the outcome might be off-shore orders for the various sections of the Australian industry for supply to SEATO countries.

In July 1958 Sir Philip McBride stated that the report of the Ruestow mission had "been the subject of conversations between the U.S. Secretary for Defence, Mr. Neil McElroy, and the Australian Ambassador to the United States, Mr. Howard Beale," and that Service officers of the two countries, U.S. Defence and State Department officials, were considering the report in detail. The US Navy had been assigned authority to co-ordinate the recommendations of the three US military departments.

All this sounded promising but for the rest Sir Philip was designedly vague. He referred in general terms to the intention to re-equip Australian forces, particularly ground and air, with certain important items of US pattern, and to proposals aimed at increasing standardization; but made only one definite statement directly affecting defence production. "A major effort is intended in the field of research and development to provide Australia with current information from US Armed Forces research so that Australian resources and production efforts may be expended on the most promising new developments," he said.

The ideal fighter for RAAF choice would have long range for delivery, a wide radius of action, short-field take-off and landing performance, supersonic speed, the abilities of an air-superiority interceptor at high altitude (without too-complex ground control), variety of armament to do a useful army co-operation job at low level, cheapness of construction and simplicity of maintenance.

At that moment the opinion shuttled between the Northrop N-156F and the North American A3J Vigilante, with occasional diversions in favour of the Grumman F11F Tiger and the Republic F-105 Thunderchief.

The RAAF would have also liked a long-range bomber squadron, but has resigned itself to the political fact that this may not be possible and that the GAF Canberra B20 would have to soldier on until 1965.

One of the counter claims then was that it was too high of an obsolescence rate that was built into locally constructed aircraft. From the time a license is obtained for a fully productionised American or British aircraft it would be at least two years before the Australian production-line began to flow, and then that rate was one or two aircraft a month.

By the time the RAAF aircraft reaches squadron service it was likely to be in the "phase-out" stage in the country of its origin. There were fallacies, of course in this line of argument that would show later on in the late 1950's and early 1960's.

So, in hindsight, the Australian industry has repeatedly demonstrated its ability to introduce design modifications which have offset obsolescence in the original design. The most notable 1950's example is the Avon Sabre, a development of the North American F-86F to incorporate the RA.7 Avon engine and two 30 mm Aden guns and, later, extended 6-3 leading-edges incorporating fuel cells. The Avon Sabre, its service period was initially marked as four years in 1954, was an example of this, from first flight 1954 to the last produced in 1961, there had been a remarkable development of Mach 2 radar and missile equipped fighters put into production, all within the same timeframe.

But the Avon Sabre was acknowledged as the best of its breed—and it was still a very useful fighter and army support aircraft for the Malayan theatre from 1959 and in Thailand up to 1968, though it was also acknowledged that the Russian Mig-17 had "a slight edge" on it when both are handled by pilots of equivalent experience. The introduction of the AIM-9B Infra-red Missile from 1959 was to enable this aircraft type to remain in first line potency until late 1968, when replaced by the Dassault Mirage IIIO with its additional Radar/IR Equipped Matra Missile in RAAF Squadrons. (Replacing both the Avon Sabre and Bloodhound Missile!)


*The North American A3J (Later RA-5)Vigilante for the Bomber replacement*

The industry, however stated, that it was short-range thinking, and itself, points an accusing finger.

*"The Air Force takes too long to make up its mind, it claims, and there is timidity in selecting an aircraft from drawing-board or prototype stage. It has to be fully proven before an order is placed, and then the quantity sought is too small for economic costing. Then the Air Force wants the initial batch in a hurry, which means building up to a peak of employment, with an inevitable later slump while the RAAF goes through the same tortuous process of selecting, deciding, ordering—-or re-ordering. In between times the initial costing of the project is further upset by RAAF demands for modifications to be introduced on the production line"*

Industry exponents argue, too, that the quoted costs of locally built aircraft, even in Parliament, were frequently exaggerated, while those of imported aircraft are under-estimated. There were no protective tariffs such as the automotive industry enjoyed. *"If we are to be judged on a basis of comparison with overseas it can be stated quite definitely that local production costs are less than overseas for aircraft of American origin, providing the Government makes an early decision and the order is in the region of 100 aircraft,"* stated Mr. E. J. Jones, aircraft factory manager of Commonwealth Aircraft, in an address to the Aeronautical Division of the Institute of Engineers. *"This is due entirely to the fact that local labour costs are approximately 40 per cent of the USA costs. Engineering and tooling costs for this quantity can be absorbed and the price still be economical, for it is not those costs which make local costs high by comparison with the USA but the learning-curve effect brought about by the large numbers of aircraft ordered by the US. government".1*

A mission headed by the Director of Operations, Gp Capt W. E. Townsend, looked over the British and American industries early 1958, but no definite results followed. *"Another complication of the re-equipment picture, as it affects both the RAAF and the aircraft industry, is the fact that the Australian forces are committed not merely in a home defence role, but to SEATO, and hence they must equip for a role that is not necessarily of their own choosing.*

*Three years ago it was the "air superiority" role in Malaya. It was for this that an RAAF re-equipment mission, after an overseas tour, selected the Lockheed F-104".*

It was envisaged in 1955 that a original total of sixty F-104As and six F-104Bs (Duel, later designated TF-104As) be produced under license, followed by an increase to ninety-seven (97A's, no B's) with 141 J79-3 Engines in 1956, to an Budget reduction in April 1957 to just thirty F-104As and three F-104Bs.
*Below per 66a/c Plan Delivery and US$ costs:*

a) Based on a July 1, 1957, release of funds to AMC, sixty F-104A and six F-104B aircraft can be made available to the Government of Australia as follows:

| CY 1959 - | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|
| F-104A | 2 | 9 | 11 | 10 | 10 | 10 | 8 |
| F-104B | | 3 | 3 | | | | |

The estimated price for the F-104A aircraft and support for two years from two bases of operation and a twenty-hour-per-month flying program is as follows:

| | | Per Aircraft | Total for 60 Aircraft |
|---|---|---|---|
| a) | Airframe | $346,500 | $ 20,790,000 |
| b) | Installed GFAE | | |
| (i) | Engine | 242,300 | 14,538,000 |
| (ii) | Electrical Equipment | 10,070 | 604,200 |
| (iii) | Communication Electronics | 1,020 | 61,200 |
| (iv) | Instruments | 6,940 | 416,400 |
| (v) | Auxiliary Equipment | 20 | 1,200 |
| (vi) | Airframe Components | 2,800 | 168,000 |
| (vii) | Transportation of GFAE | 6,010 | 360,600 |
| (viii) | Photographic | 330 | 19,800 |
| (ix) | Armament | 109,000 | 6,540,000 |
| (x) | Engineering Changes | 24,250 | 1,455,000 |
| | | $749,240 | $ 44,954,400 |

These would have entered service in September 1959, with the last delivered in mid 1961, had the order had been placed by July 1957. Its service life would have taken the aircraft to 1965, which then would have been replaced by Guided Missiles, so it was stated in 1957. *(Signs of Sandy Duncan of the UK 1957???)*
Then there were rumours of a change of role and, after a further mission, led this time by the Minister for Defence, Sir Philip McBride, the F-104A project was dropped.

So pending a decision still to be made, a further twenty-one Avon Sabre aircraft order was placed with the Commonwealth Aircraft Corporation, which had already ceased production of that aircraft (complete with up-to-date armament and other equipment) as a stop-gap. For the start of Konfrontasi, we were still stuck with our purchase types of the 50's, Sabres and Canberras.

*The eventual GAF Mirage IIIO(F) order approval for thirty aircraft would come in late 1960; with the first aircraft delivered in April 1963, followed up by the General Dynamics TFX, the F-111A, in 1964, being ordered under Cabinet Submission #884 for RAAF Air Staff Requirement #36, and then would be delivered in 1973. But that's explained in Part 3*

## The first RAAF Jet moves to FEAF: 1958

The use of air power was an important part of the Commonwealth strategy in Malaya. The rough terrain of the Malayan peninsula made land operations difficult, and in the first years of the conflict the Commonwealth forces were not yet ready to undertake extensive land operations. The arrival of RAAF transport Squadron and a bomber squadron in 1950 represented Australia's first involvement in the Malayan Emergency.

In June 1950 eight Dakota transport aircraft of No. 38 Transport Squadron RAAF were stationed east of Singapore at Changi airfield until April 1951, when it began operating from Kuala Lumpur with No. 1 squadron RNZAF. No. 38 Squadron moved back to Changi in July 1952 and returned to Australia in December that year.

Six GAF Lincoln bombers of No. 1 Squadron (Bomber) RAAF arrived in Malaya in July 1950. The squadron was based at Tengah on the west of Singapore Island. In association with rotational RAF Lincolns ( Averaging eight airframes from some 18 equipped Squadrons in Bomber Command in 1950, on 3-5 month eight aircraft Flight rotations). The squadron Unit Equipment (UE) numbers rose from six to eight GAF Lincolns when the RAF stopped rotations into Malaya from 1951 to 1953, which then resumed until 1955. *A single RAAF C-47B (**A65-72** ) was loaned also, to the HQ Flight of FEAF (later part of C Flight 267 Sqn RAF) for a 6 month loan fitted for Airborne Speech Broadcasting role. Australian Government agreed to loan the aircraft up to March 1954 and then with an extension ( due to loss of their RAF Valetta Aircraft n 23rd February 1954) to the 3rd June 1954.*

First GAF Canberra's of No 2 Sqn overfly Butterworth August 1958. **AWM**

The RAAF GAF Lincolns operated in Malaya until September 1958, when they were replaced by GAF Canberra Mk20 bombers of No. 2 Squadron(B) RAAF from July 1958. *RAF Canberras were operating there at Butterworth from early February 1955 on rotation from Bomber Command. During the eight years of operation, No 1 (B) Squadron dropped 17500 tons of ordnance (Nearly half of all dropped in Malaya) in 3000 sorties flown.*

In support of Malayan forces and other Commonwealth units in their conflict with the military arm of the Malayan Communist Party, authorization and dispatch of 19 Avon-Sabres of No. 3 (Fighter)Squadron RAAF, under command of W/C C Thomas, in five hops, totalling some 11 hours of flight time from November 1958.

These aircraft were flown by the squadron's pilots from their base at Williamtown in New South Wales to R.A.A.F. Butterworth in Malaya (where they are to form part of the Commonwealth Strategic Reserve)—a distance of 6,040 miles. This elaborate ferrying operation, the biggest peacetime movement of aircraft ever undertaken by the R.A.A.F., involved complex flight-planning and detailed safety precautions. It also meant pioneering a new air route from Australia to Malaya—via West New Guinea, the Philippines and Borneo—with Darwin as its starting-point. The Squadron was soon followed by another sixteen Avon Sabres of 77 Sqn (F) RAAF which ferried up a few months later. Both were based there by February 1959 as part of No 78 Wing (Group Captain G. Cooper)

*A bare bones base was opened in 1959 at Learmouth, permitting a alternative future route , via the Cocas/Keeling Islands Ferry Route to Singapore.*

No. 3 (F)Sqn RAAF carried out its first operation against communist guerrillas on 13th August 1959, in a joint bombing raid with 77 (F)Sqn. Six Sabres from each squadron took off with 500lb high-explosive bombs under wing, and destroyed three terrorist training camps.

No 3 (F) Sqn Sabres taxi against the tropical background and palms of Butterworth RAAF
**Photo: Kevin Stapleton**

## *The first Modern RAAF Swept Wing Jet Fighter: 1953*


The one and only CA-26 was a quantum leap compared to the Vampire and Meteor in 1953; here still in original form , A94-101 photographed at Wagga circa 1960s as Instructional Airframe No 1. Now photographed post service with all of the production modifications added at Point Cook in 2005.

*Photos Tom Smith and ADF Serials*

# RAAF Pilotless Interceptors : Release the "Blood" Hounds of war, 1963.

Written by Gordon R Birkett@2015

**Meanwhile** our first Guided Missiles were ordered as point defence, pending the arrival of more modern aircraft fitted with guided missiles. Australia's first surface-to-air guided missile unit, the Bristol/Ferranti Bloodhound installation at Williamtown, NSW, was formally handed over by its manufacturers to No 30 Sqn RAAF on 30th January 1963. Developed from the Red Duster Project, the Bloodhound I entered service with the RAF in 1959, with acceptance trials at RAF Trials Station, North Coates, continuing until the middle of 1960.

*In RAF Service, the Bloodhound I was withdrawn from RAF Service at the end of 1964, having been replaced by the improved Bloodhound Mk 2.*

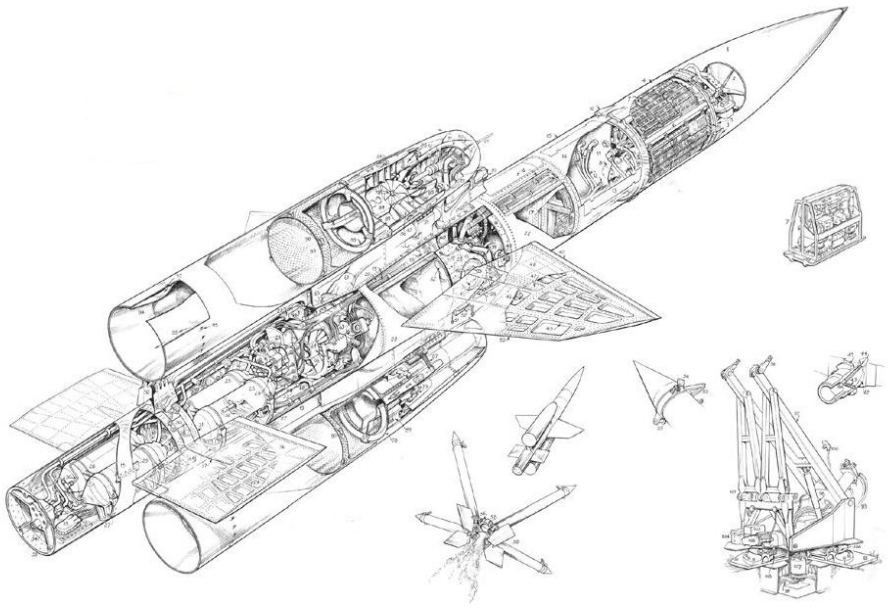
The first components of our Missile System were shipped out of the UK on the SS South Africa Star in June 1962 from Bristol Aircraft Limited. More equipment followed the following month on the SS Port Vinder and SS Rhodesia Star.

The equipment was accepted, on behalf of the squadron, by the Minister of Air, the Hon D. E. Fairbairn, DFC, MP, from Mr. F. W. Higginson, joint general manager (Guided Weapons), Bristol Aircraft Ltd, system managers for Bloodhound. Ferranti Ltd were represented by Mr. Basil de Ferranti, MP, and Decca Ltd by Gp Capt E. Fennessy. Radar transmitters and associated equipment, is built into a series of air-transportable cabins. The radar aerial and gantry was also air transportable."

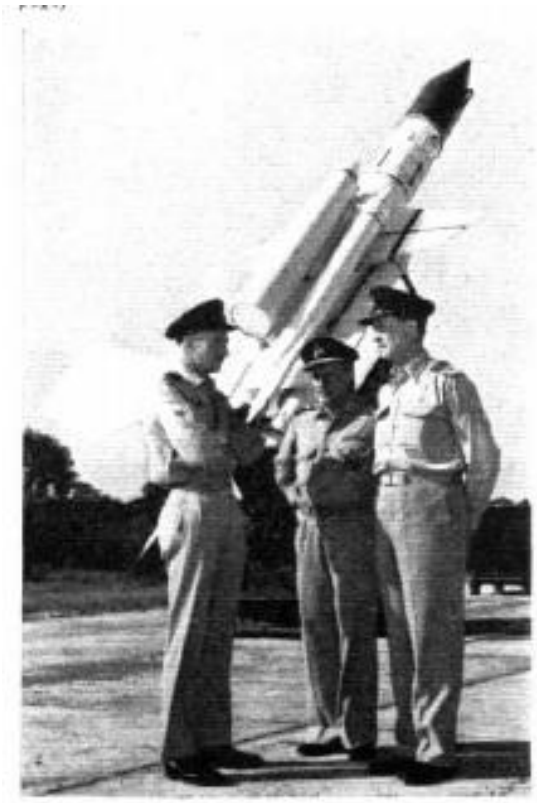
"No 30 Sqn was responsible, with the assistance of the Bloodhound consortium companies, for the installation of the missile system at Williamtown. The equipment in use at Williamtown were the Bloodhound Mk 1 system, which is in large-scale operational service with the Royal Air Force in the defence of the United Kingdom and has also been supplied to Sweden.

Deployment of the 30 Sqn SAMs to RAAF Darwin were made during the Konfrontasi, pending the arrival of the Mirage IIIO in sufficient numbers. A single enlarged 76 (F) Squadron Flight of Mirage IIIOs were based there from 1965 to 1967.

"The more advanced Bloodhound Mark 2 system has been ordered in substantial quantities by the RAF, Sweden and Switzerland". Eventually the Bloodhound 2, albeit in RAF Service, would be based well within the area of operations of Konfrontasi, when located in two Squadrons: one at Butterworth Malaysia, and one in Singapore and for five months, a deployed mobile flight at Kuching in Sarawak, Borneo.



Exposed view of a Bloodhound Mk 2 Missile and MkVI launcher: Flight (MOD)



*Photos, Left: The complete system, including In front of a Bloodhound Mk I with a kangaroo in its roundel are pictured above (from the left): Wg Cdr E. W. Tonkin, CO of 30 SAM Sqn, RAAF; Air Cdre B. A. Eaton, DG Operational Requirements, Dept of Air, Canberra; and Gp Capt W. Townsend, OC RAAF Williamtown. Right, a Mk 2 test article at Woomera in 1959 when under development at the WRE. NAA*

**Sources:**


- National Archives of Australia: Aircraft as replacement for the Canberra's
- National Archives of Australia: Procurement of nuclear weapons - use of by the Australian forces
- National Archives of Australia: South East Asia - Indonesia - Malaysia - Relations - Confrontation
- National Archives of Australia: Indonesia - Special actions and operational plans [Confrontation]
- National Archives of Australia: Capability of the Indonesian air force
- National Archives of Australia: A50 History sheets for No 3/No77/No5 Sqn's' (No 2 Sqn A50 was missing from the NAA listings!)
- www.3squadron.org.au/subpages/Malaysia
- WWW.se-asia.commemoration.gov.au/background-to-indonesian-confrontation

*Article Source Notes 1 & 2*
*1/Flight Magazine 1950-1960 Articles*
*2/Stanley Brogan Article collection 1950/1960s*


# *Odd Shots:*

***The Bell XC-142 VTOL Transport, landing aboard the USN Carrier USS Bennington on 16th May 1966. Funnily, some 50 plus years later the Bell/Boeing MV-22 will be ordered as a replacement for the F/A-18F tanker role and C-2 Greyhound COD Duties for Carrier operations in the 2020's! <u>And we complain about development times!!</u>***

**Next Issue, the Summer 2016 edition, will be out circa late Feb 2016**

**Articles to be included:**

- The Malaya Emergency and the start of Konfrontasi: The Malaysian Based RAAF Konfrontasi Involvement  Part 2

A big **thank you** to John Bennett who has contributed a detailed parted article herein. Others contributors are most welcome to provide written articles or even topics to be covered.

Cheers

Gordy