

ADF Serials Telegraph Newsletter



Volume 10 Issue 2: Pre-supplementary Winter 2020

Welcome to the ADF-Serials Telegraph.

Articles for those interested in Australian Military Aircraft History and Serials Our Members this issue are: Production Editor and contributing Author: Gordon R Birkett Co-Editors and contributing Authors: John Bennett and Garry "Shep" Sheppard Contributing Author/s: David Vincent

As stated on our Web Page; http://www.adf-serials.com.au/newsletter.htm

"First published in November 2002, then regularly until July 2008, the ADF-Serials Newsletter provided subscribers various news and articles that would be of interest to those in Australian Military Heritage. Darren Crick was the first Editor and Site Host; the later role he maintains.

The Newsletter from December 2002 was compiled by Jan Herivel who tirelessly composed each issue for nearly six years. She was supported by contributors from a variety of backgrounds on subjects ranging from 1914 to the current period. It wasn't easy due to the ebb and flow of contributions, but regular columns were kept by those who always made Jan's deadlines. Jan has since left this site to further her professional ambitions.

As stated "The Current ADF-Serials Telegraph is a more modest version than its predecessor, but maintains the direction of being an outlet and circulating Email Newsletter for this site".

Words from me: I would argue that it is not a modest version anymore as recent years issues are breaking both page records populated with top quality articles! John and I say that comment is now truly being too modest!

As stated, the original Newsletter that started from December 2002 and ended in 2008, and was circulated for 38 Editions, where by now...excluding this edition, the Telegraph has been posted 44 editions since 2011 to the beginning of this year, 2020.

The ebb and flow of contributions is still a major problem and concern and if it wasn't for stalwarts like John Bennett and a few recent authors who have contributed alone and by me, I'm sure new articles and public interest would have died long ago. Like other parts of the ADF Serials.com.au site, we all do this for free and to share history.

From my prospective, all research and presented articles are produced in good faith, based on thorough research with official documentation and accumulated knowledge that, in most parts is considered "air tight", but we are always willing to include discussion should they conflict with written history, by presenting evidence, or new evidence presented. The included Authors in each edition, are also providing their articles, based on their research that is supported by official period documentation and photos, that may provide interest and insight in lesser known subjects' or circumstances, otherwise forgotten or not fully covered by recorded History to date.

Other Stories may be of a personal account or passed down as viewed through their eyes only, and will be stated as such.

Our Bottom Line:

We do reserve the final say and do standby our presented article's accuracy; until alternative or official documentation are provisioned to state the facts are otherwise. *We will not accept or publish any knee jerk comment or unsupportive counter arguments.*

I should also wish everyone a safe period of isolation during this Pandemic,...until there's a vaccine!

Yours, Gordy!

ADF-Serials Generic House Rules:

Please support the main ADF-Serials website with your patronage. It's free and is the product of thousands of hours of dedicated, ongoing work by our volunteer membership. Many of the answers to your questions can be found there. It is located at http://www.adf-serials.com.au/home.htm

The main site also includes:

- Our image gallery at <u>http://www.adf-serials.com.au/Gallery.htm</u>
- Our message board at http://www.adf-messageboard.com.au/invboard/
- The Aircraft of the New Zealand Defence Force website at <u>http://www.nzdf-serials.co.nz/nz-</u> serials/nzaircraft.htm
- The Aircraft of the Papua New Guinea Defence Force (PNGDF) website at http://www.adf-serials.com/PNGDF.htm

Any photographs posted must be your own or where possible, have the photographer's permission. At the absolute least, ALWAYS ensure credit is given.

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<u>News Briefs:</u> Discontinued as a regular feature, refer ADF-Serials Face Book for news <u>https://www.facebook.com/groups/ADFSerials</u> **Message Traffic:** Please address any questions to: <u>guestion@adf-serials.com.au</u>

A9-700: OUR LAST BEAUFORT by David Vincent

The manufacture of the Beaufort General Reconnaissance Bomber – eventually in much-altered form – gave the RAAF its most modern land-based multi-engine aircraft yet, but production began prior to the Pacific war when the service's wartime needs quickly changed. Nevertheless, the Australian Beaufort saw extensive use by the RAAF in New Guinea, particularly post 1942.

More importantly, though, it was the Beaufort, in particular, that put Australian aircraft industry to the test of building a complicated aeronautical design using, primarily, raw materials made up in Australia (it has been recorded, though, that this independence did not come until after the first 180 bombers had been built). That industry had had slow beginnings in the 1930s but by the end of the war had produced 3,500 aircraft in nine types in what official Australian historian D. P. Mellor ranked as "among the great achievements of Australian industry..."



British built Bristol Beaufort L4448 (Later A9-1001), the eighth produced aircraft, became the pattern aircraft for DAP in 1941 after being sent out from the UK. Credit Bob Nash DAP Collection

Of the 3,500 aircraft, 700 were Beauforts, subsequently replaced on the Australian production line by the Beaufighter Mk XXI, as the importance of maintaining "the Beaufort production establishment until such time as the manufacture of a new type of aircraft not then selected could be undertaken" was realised.

The initial production plans for Beauforts had only been 90 for the RAF and 90 for the RAAF, but this was increased by the end of 1942, due to the wartime expansion of the RAAF, to a total of 450. In January 1943, as part of a new aircraft production plan for Australia approved by the Commonwealth's War Cabinet, the total went from 450 to 700, plus spares, with a rate of production to be "stabilised" at 30 aircraft per month.

Australian built for Australia's defence . . .

First, the Beaufort, giving admirable service both defensively and offensively during the early critical days of the Pacific war. Now, the irrepressible Beaufighter . . . rolling off the Australian production lines to assist in giving the 'coup de grace' to Jap Pacific aspirations.

This detail from an August 1944 Bristol Aeroplane Co advert noted Australia's transition from the production of Beauforts to Beaufighters at that time. Credit David Vincent Collection

It was also at this Cabinet meeting that production of Australian-made Beaufighters (and Mosquitoes) was authorised.

As production of the Beaufort tailed-off (the best month had been September 1943 when 37 were completed) and the first Beaufighter came off the line (May 1944), the production figures for the last few months of the Beaufort era were as follows: June 1944 – 15 Beauforts + 2 Beaufighters; July 1944 – 15 Beauforts + 8 Beaufighters; August 1944 – 12 Beauforts + 13 Beaufighters.

With a lot of fanfare on the part of the manufacturer, the so-called Department of Aircraft Production (DAP), A9-700, "delivered 14 days ahead of schedule" the Department noted, came off the production line at Mascot, New South Wales in late August 1944, and was test flown by DAP test pilot Tom Young (Minister for Air, Arthur Drakeford, attended Mascot and addressed DAP employees to acknowledge this milestone on 31 August, but whether this was before or after Young's flight is not known).



A9-700's centre section after shipment from the SA Railway Area Workshop (Left) and receipt at DAP's Mascot MAW (Main Assembly Workshop). Credit: David Vincent Collection. Right was an accompanying Card: Credit Bob Nash DAP Collection



A9-700's forward section completed Mascot 21 April 1944 (Credit David Vincent Collection) and the Rear fuselage 11 May 1944 from DAP Fishermans Bend. Credit Bob Nash DAP Collection

Young later noted that an RAAF Beaufort crew had been sent to Mascot to undertake a demonstration flight in A9-700 on 30 August but DAP objected until they had time to get in their own demonstration flight, it being at this stage, probably, that a well-known air-to-air photo of A9-700 over Sydney Harbour with the Sydney Harbour bridge in the background was taken.

As many readers will already be aware, following completion of the last Australian Beaufort an unofficial emblem, the cartoon character "Thumper" from Walt Disney's 1942 animated film *Bambi* was added by DAP to both sides of the nose, the reason behind this presumably being a DAP comment on how their Beauforts were 'thumping' the enemy (an RAAF Kittyhawk and a USAAF XXI Bomber Command B-29 that

came later bore similar nose art). It should be noted, however, that A9-700 did not carry the "Thumper" name.



A9-700's outer wing sets after shipment from the SA Railway Area Workshop 1May 1944. Credit Bob Nash DAP Collection



A9-700 with DAP employees at the Mascot Main Assembly Workshop following its initial roll-out. Credit David Vincent Collection

According to the A9-700's airframe record card, on 31 August 1944, "after [the] official hand over at Mascot [A9-700 was] allocated for special duty on [a] demonstration tour [of] Beaufort Division establishments" after which it was to be flown to RAAF Station Forest Hill, the home of No. 5 Aircraft Depot (AD), for storage.

Demonstration flights were apparently flown from both Mascot and DAP's other Main Assembly Workshop, Fishermans Bend, Victoria, but it seems that the planned flight to Parafield, South Australia (near where Beaufort centre section and wings had been built), did not take place and, on 6 September A9-700 was received by No. 5 AD.



A9-700 photographed at Mascot airfield, complete. Credit David Vincent Collection

This Beaufort never saw any active service, kept instead, perhaps, as a possible museum piece, but on 13 May 1946, after being joined by more than 200 other older, mostly war weary Beauforts, plus almost as many Beaufighters, it was authorised for write-off.

By the end of 1948, by which time the Beauforts had been stripped of engines and components and there had been Press complaints about the time it was taking to get rid of these airframes (preliminary plans for a Royal visit by the King and Queen to Australia in 1949, although later postponed, had already included an official visit to survey local airfields), the Commonwealth's Department of Supply & Development had accepted an offer from the Australian Aluminium Company Pty Ltd to take all the wartime scrap aircraft airframes at Forest Hill, some still with engines, for a total of £12,289/10/-.

There had been 218 scrap Beauforts in open-air storage at Forest Hill; they sold for £20 each for the airframe with another £20 being allowed for the three wheels for each aircraft, as long as they were complete with tyres and tubes!

Despite the high number (by Australian standards) of Beauforts built and the fact that they had served in ten RAAF squadrons during the Pacific war at one time or another, that record has, unfortunately, never been translated into a detailed history of the type. Now, with the passing of those who built them and former RAAF personnel who serviced and flew them, the opportunity to produce a comprehensive DAP Beaufort history seems, for the most part, to have eluded us all.

Editor Note#1: A9-700: Thumper's Extra Bits post production (Fin Fillet)



Editor Note: A9-700: The cartoon character "Thumper" was also painted on the starboard side (here) as photographed on presentation, and on a later demonstration flight, also on the portside. <u>Observe: there is a fuselage non-standard fin fillet</u> <u>forward of tail plane (with bare aluminium attachment point</u>, **previously never noted on any production aircraft** up to A9-675 (Pictured at 1APU in 1944) or even present on Sydney Harbour on this aircraft during first flight. Is this a retouched Picture or another post production modification per trials? Seemingly, it was an experimental longitudinal stability modification. Credit Bob Nash DAP Collection



Editor's Note #2: Beaufort Numbers and production

Please note that Beaufreighters, serilled as A9-701 to A9-746, are conversions only, of existing DAP Beauforts, not new builds. The prototype Beaufreighter, A9-201 below and her three gestations, was not reserialled A9-743 until October 1945.



As delivered, without paint and operational equipment



First modification included faired over modified rear fuselage with greater depth.



Final Prototype standard with a deep panier inclusion faired in. All pictures GRB Collection

All told, seven hundred and one Beauforts (including one British Built Pattern, L4448, aka A9-1001) were flown in Australia. Forty Seven Beaufreighter conversion completed. Below is the DAP Beaufort Division Administration diagram which spanned over three states of Australia. Credit Bob Nash DAP Collection



Newspaper headline clippings of a proud DAP that featured the success of the DAP Beaufort in SWPAC Operations.

Editors' Note #3: The one AWM Beaufort veteran that got away!

There was one DAP Beaufort Mk VIII marked for preservation by the RAAF for the Australian War Memorial; A9-580. Received at 2AD (Aircraft Depot) from DAP on 1 February 1944, it was received by 5AD at Wagga for operational fitment on 18 February 1944before being received by 15ARD RP (Aircraft Recovery Depot, Reserve Pool) on 24 April 1944.

On the 16 May 1944, it was received by 8 Communications Unit before being received by No 8 Squadron RAAF on the 25 May 1944. It was coded UV-M. *Name of the aircraft still eludes us.*

After serving in this unit for six months and completing a staggering 132 Sorties, during 186 Operational Hours and had dropped near 100 tons of bombs. It was received by 7AD on 1 December 1944 to have its 240 hourly service to be performed.



It was later received by 1AD on 12 March 1945 before being ferried to 3AD for its service on the 22 April 1944. It was returned to 1AD on 1 May 1945 and finally used and displayed at various locations in Southern/Eastern Command for the Third Victory Loan.

The Pacific War was over by September 1945, and she was then sent into Category 1 storage at 5AD Wagga on the 5 October 1945. She joined some two hundred and ninety DAP Beauforts that survived the war to be put into storage.

By 13 November 1945, it was stored under Category C and at the time of storage she was fitted with Twin Wasp Engine MK R1830-SIC3Gs No 344/ No 347.

One of several aircraft selected by the RAAF for exhibition of aircraft in the Aeroplane Hall at the Australian War Memorial in early 1946, she was allotted to the Station Headquarters Canberra RAAF Station on the 2 May 1946.



Also stored there at 5AD Wagga, was DAP Beaufort MkV, A9-1 (RAF's T9540) above left, the very first Australian-built Beaufort and many others right.

By the November 1946, all DAP Beauforts were approved by Treasury to be destroyed, along with all spares and associated equipment. By 1 September 1948, the aircraft having been made ready and stored for collection for over two years was to be finally moved.

With an appropriate vehicle train that delivered a Catalina for use as an instructional Airframe at Wagga, a return backload was arranged for its journey by road over 6-9 September 1948.

A further eighteen months went by before, on 28 February 1950, the she was cleared from RAAF Stock Account for the Australian War Memorial responsibility. She was then issued to the Australian War Memorial on the 8 March 1950, whilst still being stored at Canberra RAAF Station. It never was placed on display and was scrapped at some unknown time (to the Editor's knowledge) in the early 1950's after being sold to T. Carr & Co.



Above, parked at Canberra RAAF Station in 1950, pending its allotment to the Australian War Memorial: It scheme is somewhat a different non-standard disruptive camouflage compared when it had when she emerged from Beaufort Division, DAP Mascot, along with the then 1947 standard Red/White/Blue Post war Roundels applied before travel to Canberra in 1948. Credit: ADF-Serials.com.au

Opportunity lost for the type?

No, as one more would be obtained in the 1990's: DAP Beaufort Mk VIII, A9-557. She was received by the RAAF in the first week of January 1944, and was delivered to 100 Squadron in July. It spent its entire operational career in New Guinea, operating from a number of airstrips, including Vivigani (Goodenough Island) and Tadji (near Aitape).

On 20 January 1945 the aircraft was struck off in a spectacular crash landing at Tadji. Returning from a raid on a village at Elimi with shell-hole damage and a live bomb jammed in the bomb bay, it ran off the runway and collided with parked vehicles as well as a nearby building.

After reclamation of all useable spares by a Repair and Salvage Unit, the damaged Beaufort dumped. It lay in the jungle at Tadji for 29 years before being recovered.

AWM states "A9-557 found together with other RAAF Beauforts at Tadji, and exported via Lae to Romsey, VIC by Mr Ian Whitney.

On paper the a/c was loaned to the RAAF Museum, Point Cook but was not actually sent there. c1990: Acquired by Mr Robert Greinert and transported to Sydney briefly, before being acquired by the AWM as part of an exchange agreement. Road transported to AWM store, Mitchell."



After years of restoration from 2002, with the nose of Beaufort A9-461 acquired for attachment to A9-557 fuselage, she is now on exhibition of aircraft in the Aeroplane Hall to reflect those crews lost flying the type, those who survived, her ground crews and the efforts and testament of the whole DAP Beaufort Program.



AUSTRALIAN WAR MEMORIAL

REL/20173

"Lest we forget"

A take on a Jake!

Gordon R Birkett @2020

Background

During 1943, Beauforts of No 7 Squadron RAAF, based at Townsville, were using the aerodrome at Horn Island to carry out convoy escort duties, seaward patrols, and reconnaissance patrols in the Gulf of Carpentaria and along the south west coast of Dutch New Guinea. In these operations, they had several encounters with perils and Japanese aircraft.

Flying over the sea water, sometimes without land sighted presented numerous worries for the crews of No 7 Squadron.

In example, F/Lt Paull in A9-134 on an afternoon patrol of the western approaches to Horn Island on the 24th January 1943, 0810hrsz was forced to ditch in the sea 25 miles west of Booby Island, due to power failure. The crew of four were slightly injured and were rescued by the Horn Island based Crash tender.

On the 28^h January 1943, F/Sgt Cairns in A9-122 KT-S on Duty HOR 8, after sighting shipwrecked survivors during its patrol, dropped messages and what supplies on hand to the ten survivors.



RAAF official

They advised per signage on the beach, "No Food", and later that they were "Pat Cam", which had been bombed and sunk on the 22nd January 1943 to the north west of what is named "Guluwuru Island".¹



HMAS Patricia Cam in Darwin: RAN Official

On the 27th January 1943, a No 2 Squadron RAAF Hudson, A16-161 under command of F/O Cambridge dropped supplies to the party.



A16-161 pictured on right. RAAF Official

The next day, No 7 Squadron RAAF F/Sgt Cairns returned again in A9-122 KT-S (HOR13) on the 28th January 1943 and dropped more food and messages to the survivors on the beach : 11degrees 30 mins South/136degrees 15 mins East.

A further sortie was performed by F/Sgt Bowern in Beaufort A9-108 on the 29th January 1943 to advise that the ship, *Kuru* was on its way. The following day, F/Lt Croker in A9-145 advised that all survivors had been picked up and departed.



HMAS Patricia Cam Survivors after returning to Darwin: NT Gov.

On interrogation after being picked up, the survivors revealed that a single radial engine low wing monoplane, with two floats and a single tail, had attacked up sun dead astern at between 100-200 feet and was neither heard nor seen until it was very close.

The crew went into action stations immediately, but a bomb was dropped which penetrated the amidships hatch cover and struck the bottom of the cargo hold, and exploded. The ship sank in a minute and a half with the loss of one of the naval ratings.

The aircraft followed up its attack and dropped another bomb on the 20 feet radius of floating survivors. With the explosion, a further rating and two natives were killed. After reaching the shore, a further two, the stoker and another native, also died of the concussion effects of the second bomb.

The Jake Float plane

In the early stages of the Pacific War, identifying Japanese aircraft types was a mixture of 'what I saw was a Jap ME109" over Java and a lack of knowledge of what types were in use by the Japanese. Early records stated all were Zeros, whereas most were IJA Oscars or similar types.

The Technical Air Intelligence Unit (TAIU) was formed to recover Japanese aircraft to obtain data regarding their technical and tactical capabilities. Crash sites in the Northern Territory and later Papua New Guinea theatres were visited and details recorded on the types, construction, or any equipment items therein.

In the middle of 1942, Captain Frank T. McCoy, O-310412 a United States Army Air Forces military intelligence officer from the 38th Bombardment Group assigned to the Allied Technical Air Intelligence Unit in Australia, set out to devise a simpler method for identifying Japanese aircraft.

They were divided the Japanese aircraft into two categories; fighters and everything else.

- boys' names to the fighters,
- girls' names to all of the others.

By the end of 1942, all United State Forces in the Pacific had begun using McCoy's TAIU identification system. One of those fighters was the Japanese a long-range reconnaissance seaplane, the Aichi E13A, given the Allied reporting name "Jake", as pictured below, belonging to the 734th Kok<u>u</u>tai.



Numerically the most important floatplane of the IJN, it could carry a crew of three and a bombload of 250 kg (550 lb). Range: 2,100 km (1,300 mi)

One ship sunk, or was there two?

During the period 1942 and 1943 the Arnhem Land coast of the Northern Territory was under North Western Area and shipping along that coast often came under attack from Japanese aircraft.

These were mostly float planes operating from bases in the Aru and Tanimbar Islands, north of Darwin in the then Netherlands East Indies Island chains, occupied by the Japanese since early and mid 1942.

Supply vessels sailing between Thursday Island and Darwin normally had a corvette escort, supported by seaward general reconnaissance flights, but local supply boats to the missions, coastal watch stations and radar stations were generally not escorted by the RAN or RAAF.

Early on the 13th January 1943, HMAS Patricia Cam, under command of Lieutenant L C Meldrum RANVR, left Darwin carrying stores and personnel headed for several outlying missions, coastal watch stations and radar stations.

At 1.30pm on the 22nd January 1943, a float plane of the 734th Kok<u>u</u>tai, a Japanese floatplane squadron of the Japanese Naval Air Arm, attacked the HMAS Patricia Cam and had sunk her as mentioned before.

What is little known is that there were actually two vessels sunk on that day. The other, the MV Larrapan, a 9 ton Pearling Lugger, was also sunk by the Japanese float plane by machine gun fire alone.

Those of whom that were on board were Reverend Leonard N. Kentish, Chairman of the Methodist Northern Australian Mission District based at Goulburn Island in the Northern Territory, the unnamed Fijian captain of the Lugger and five natives. She had departed Millingimbi on the 22nd January 1943, and was sailing to Elcho Island, Northern Territory.

The Japanese float plane then landed besides the vessel, and at pistol point, requested the Reverend to board the aircraft's middle cockpit, which he did. The vessel was seemingly not sunk as expected.

Australian Newspaper reports were, through censorship, had not reported this kidnapping at the time, and thus had ignored this fact when later advised that they could, for they had placed the Reverend Leonard N. Kentish being on board the HMAS Patricia Cam, when it too was sunk, earlier.



The above picture is supposed to be the MV Larrapan some years later, which can only mean that it survived the event² Source: *NT Gov.* That would mean that the remaining crew and passengers may have been escaped any malicious act and had lived through the ordeal and that was omitted by officialdom to insure there was no panic.

As for the Reverend, in shorts and shirtless, he was flown on to Dobo, on Aroe Island in the Jake and on landing was jailed, awaiting a trial by Imperial Japanese Navy.

His wife was advised in May 1943 that her husband had been indeed captured by the Japanese not drowned or killed on the HMAS Patricia Cam, and it would be several years until both the Military and Family would learn of his fate.

Investigations had resulted following the war in 1947, of the apprehension of a Japanese Lieutenant Sagejima Mangan, late of the 24th Naval Base Force, who had confessed to executing the Reverend on the

4th May 1943, when serving there in 1943. This followed after being interrogated by Australian Military Forces on Borneo. As for the Reverend Leonard N. Kentish remains? They would be exhumed and re-interned at the Internees Cemetery on Ambon from Aroe Island in 1947.



RAAF bags a few Jakes in the Timor Sea in 1943: Some written 7 Squadron histories missed one; the count was three not two!³

Research per the HMAS Patricia Cam NAA files states that perhaps the first Jake Float plane to be shot down was by a RAAF Hudson in April 1943, which resulted in the Jake aircraft crashing in the sea, with the Japanese crew surviving and swimming to Croker Island, where they were captured and sent to Darwin.⁴

There is a record of a No 2 Squadron Hudson strafing a float plane at Taberfane on the 15th April 1943 by A16-186 under command of F/O Nevman and several on the 24th April 1943 by P/O Kilgariff in A16-217 at Dobo on Aroe Island. But no Air to Air shoot downs of float planes near the Australian coastline.

A further engagement by No 2 Squadron RAAF Hudson took place on the 1st July 1943 during Duty HUG34 when on arrival to escort a convoy; two Jakes were seen attacking the convoy by the crew of Hudson A16-230. After a running fight of some thirty miles, F/O Thomas shot down one with his forward fixed guns, while the other scarpered off.

No 13 Squadron RAAF were similarly used in offensive roles that show no comments as such during April 1943



Probably one of the best centred lateral shot of a RAAF Hudson in flight, here is A16-186, "The Saint" pictured on another duty. Note Ventral gun extended. RAAF Official

The first Jake to be shot down was by a No 7 Squadron RAAF Beaufort in air to air action , was A9-296 KT-O, flown by P/O P Hopton on Duty HOR8 the 18th June 1943, 0033hrsz. They were some 80 miles north east of the Wessel Islands, Northern Territory, and following a noted blip on the radar, it was visually sighted at 4000 feet, some 6 miles to port. When struck by fire from the Beaufort forward two guns and the Navigator's single gun in the starboard wing root, it caught fire.

After another five second burst from the Beaufort forward two guns, it then dived into the sea. Location given: 09degrees 20 mins South/ 136 Degrees 25mins East



A9-296 KT-O on finals.

A second one was sighted on the 9th September 1943 by a Beaufort A9-329 KT-D, flown by F/O J L Legge, who chased the Jake, but it escaped into cloud. That time.

On the 15th September 1943, W/Cdr K R Parsons flying Beaufort A9-370 KT-K, on patrol also attacked a Jake, putting the rear gunner out of action in the first 5 minutes. *However that Gunner had managed to place three bursts towards the Beaufort and on arrival at Horn Island, it was noted that one round had lodged into the Beaufort's main petrol tank.*



A9-370 KT-K at rest.

Both of the Beaufort wing guns jammed when the Beaufort approached to 50 yards to the rear of the Jake. The crew continued to engage the Jake with the Turret guns, but the Jake escaped into clouds after an engagement of 22 minutes. Later on the 20th September 1943, Legge piloting Beaufort A9-329 KT-D, sighted six to seven miles distant another Jake at 5500 feet some 42 miles West of Cape Valsch and in a dive, opened fire with the wing and nose guns

from a range of 100 yards. At this juncture, the turret and beam guns were brought to bear as the Beaufort positioned itself parallel, the enemy aircraft receiving several effective hits. It was forced to land on the water. The pilot dived from the aircraft, into the water.



A9-329 KT-D in flight

An attempt by Legge to bomb the Jake with a 250Lb bomb was unsuccessful, which then forced him to take the Beaufort down to 100 feet so that his Navigator, F/O L Andrew, could fire and straddle the Jake with his nose machine gun. The Jake burst into flames and then later sunk.

On the 11th November, 1943, F/Lt C E Cox, piloting Beaufort A9-446 on a 173 degree true course, encountered a blip on the ASV Set, eight miles to starboard. <u>This is the first recorded airborne radar air intercept by the RAAF in the pacific!</u> At one mile, the Turret Gunner sighted what was a Jake, positioned about 56 miles South West of Cape Valsch. ⁵



A9-446 pictured above later in her life with 13 ARD repainted in foliage green and being serviced before going to 32 Squadron RAAF and coded as JM-J. ADF-Serials.com.au

On the first attack, at two hundred yards, smoke issued out from the enemy aircraft's port wing after a four second blast, and after the second two second blast, the Jake then rolled and dived steeply into the sea. On impact with the sea, there was a secondary explosion and a flash of flame. No survivors or wreckage was seen.

Not a bad score of three Jakes for a RAAF GR Bomber Squadron using the Beaufort, which was designed as a four seat general purpose/reconnaissance/torpedo bomber, in a non-intended long range fighter role.

Sources:

History sheets (Form A50) [Operations Record Book - Forms A50 and A51] Number 7 Squadron Jun 40 - Dec 45 Activities of No 7 Squadron Shoot down of Jake Combat Report by A9-296 History sheets (Form A50) [Operations Record Book - Forms A50 and A51] Number 2 Squadron Jun 38 - Dec 45 History sheets (Form A50) [Operations Record Book - Forms A50 and A51] Number 13 Squadron Jun 40 - Dec 45 Inquiry by wife re fate of the Reverend Leonard Kentish E/E-88 Cards

A Moment in Time Memories from my Service

"ANZAC Day"

Shep

During the mid-80's, ADG's were required to perform certain ceremonial functions in addition to the usual weapons training, exercises, etc. I remember, at Williamtown, having to be part of an Honour Guard and perform a 3-volley rifle salute at a funeral. A regimented process of drill and firing of rifles to be performed by a number of troops but to be seen and heard as by only one – that is every movement, every shot, to be simultaneous. Not normal parade ground "simultaneous" but a higher level of precision – the last thing that anybody wants to hear would be drill movements or the firing of volleys to sound like someone popping bubble-wrap (even if they could burst the required number of bubbles nearly simultaneously!). Very difficult to attain perfection, and really quite moving if it is done right. Which it was. Makes the hairs stand up on the back of your neck.

This, then, leads me (believe it or not) on to the question of – have you ever experienced a disjointed sense of time? How can I explain it; something like where the fabric of time and space as experienced by those around you is evidently not quite as distorted as that which you yourself seem to be experiencing? For example, knowing, as those around you know, that a certain event is approaching in the fairly immediate future (say, tomorrow morning) and, whilst acknowledging and agreeing with that commonly held belief, you yourself – evidently in an alternate reality, subconsciously assigning that belief that to a more distant point in the future (such as, next week)?

Well, it seems that I was experiencing just such an anomalous distortion of time during the evening of 24th April, 1985. A little vortex of disturbance to my evolving reality engulfed me for a period but, not those around me. The result was, having had a late and, apparently, enjoyable, evening at the Airmen's Tavern, that:

Once upon a midnight dreary, while I pondered, weak and weary, Over many a quaint and curious volume of forgotten lore – While I nodded, nearly napping, suddenly there came a tapping, As of some one gently rapping, rapping at my chamber door. "Tis some visitor," I muttered, "tapping at my chamber door – Only this and nothing more."

And the silken, sad, uncertain rustling of each purple curtain Thrilled me – filled me with fantastic terrors never felt before; So that now, to still the beating of my heart, I stood repeating "Tis some visitor entreating entrance at my chamber door – Some late visitor entreating entrance at my chamber door; – This it is and nothing more."

Presently my soul grew stronger; hesitating then no longer, "Sir," said I, "or Madam, truly your forgiveness I implore; But the fact is I was napping, and so gently you came rapping, And so faintly you came tapping, tapping at my chamber door, That I scarce was sure I heard you" – here I opened wide the door; – Darkness there and nothing more. Edgar Allan Poe, *The Raven* (1845).

Well, not quite darkness but – there stood one of my work colleagues, dressed in Service Dress, Cool Weather, apparently impatient to be somewhere.

Peering past this work colleague who had evidently been responsible for rap-rap-rapping upon my chamber door at such an early hour, I spied a number of other work colleagues, all in Service Dress, all sitting in a white Transport Section mini-bus and all also impatient to be somewhere.

In *my* version of reality – at that moment – I wasn't entirely certain what they were up to, nor why the seemed so keen that I should join them; but in *THEIR* version of reality they seemed to think that I'd slept in – having forgotten that ANZAC day was *TODAY* instead of next week and that we had to leave *NOW* or risk being late for our very public appearance as a Catafalque Party [pronounced "cat-a-falk" *not* catapult!] at a suburban Cenotaph.

Probably because I'm a good bloke, I agreed to join them and this work colleague then helpfully encouraged me to hasten about getting ready (dry shave, no time to shower/clean teeth) jumped into my Blues (which I had had little cause to wear for a long time) whereupon I quickly discovered that I didn't have the appropriate jacket, only having a short cut zip-up number (similar to the battle-dress jacket of the army) so, sensing that it was a little cool outside, I decided that it'd do quite nicely anyway and accordingly slipped it on.

I made my appearance at the mini-bus door and instead of being greeted with a chorus of "good morning's" and "how did you sleep", or "would like to share some chocolate", I was rather rudely confronted with specific questions about certain elements of RAAF fashion and the relative merits of one sort of jacket when compared to the (apparently) far less desirable sort that I was wearing and this was followed by probing interrogatives relative to my understanding of various time zones and the practical application of calendars. It was starting to become apparent that these people seemed somewhat grumpy.

The Base WOD was barely able to speak – he seemed to be struggling with some inner demon which was giving him convulsions and contorting his not very merry face – but then, through clenched teeth, he seemed to surmount his inner struggles and commenced an open and frank dialogue whereby he began threatening to kill me several times over unless I performed by part in the forthcoming activities absolutely faultlessly.

All of this because *they* thought it'd be a good idea to knock on my door to get me out of bed and *they* felt that I had the wrong jacket and *they* were all grumpy about it – well, at least the WOD very kindly suggested that I borrow the MT drivers' jacket.

Just in time (hey, that sounds like a good name for a bullshit training mantra), we arrived, de-bussed in military fashion and, proceeded to get our proverbial excrement in a confined and neat conglomeration. We harmoniously agreed to set aside petty arguments as to who may or may not have slept in, I accepted the previously offered MT Driver's jacket (which was considered by one and all to be precisely on point in so far as the prevailing fashion stood – if a little tight about the shoulders) and the WOD followed my every movement with an unblinking gaze whilst making a low, barely audible, growling sound.

Anyway, we performed our Catafalque Party duties very professionally; the Rest on Arms Reverse being done on all four points of the Cenotaph as if by some trickery with mirrors.

After all the parading around, we retired to the RSL wherein we found a table.

The WOD appeared, looming, behind me and after a pause, he quietly asked, "would you like a beer" and, in possession of my meek response of, "yes, please, sir," he walked away to the bar.

ADG: Active, Daring and Gifted. In my case, just (very) lucky to be alive!



Here we are, right at the end of our Catafalque Party duties. Here, we're at the (second) "Present Arms" having already done the whole "Attention", "Shoulder Arms", "Present Arms", Reverse Arms", "Sloooow-arch", "Halt", "Outwards Turn", "Rest on Your Arms Reversed" and then, eventually "Attention" [RAAF].

Former RAAF Aerodromes Along or near the Stuart Highway

Introduction

Shep

I have an interest in airfield design and layout, particularly with regard to the design of taxiways, dispersal areas, revetments, etc of wartime airfields. This is perhaps due in part to my previous experience as an RAAF ADG and, also (later) as an Airport Operations Officer at two different capital city International Airports. But it is also due, I'm sure, because of the intrinsically important role that wartime aerodromes fulfilled – generally speaking, aircraft needed to launch from and (hopefully) recover to an airfield and, whilst on the ground, aircraft needed to be concealed from view and be protected from aerial attack or ground assault. The design and layout of many aerodromes therefore was vital in being able to circumvent or complicate denial operations that may potentially be conducted against it.

A recent post on the ADF-Serials forum regarding a former wartime airfield south of Perth got me a ruminating. Perhaps a brief reminder of some former installations and what has become of them might be of interest to some(one).

The Darwin area is of personal interest to me so, that's what I'll cover in this little series. Also, this is focusing on places that had – or were supposed to have – a runway. It is not intended to cover flying boat alighting areas, medical, logistics, administrative or domestic facilities.

I'll keep it as simple as I can – it would be easy to make this far too detailed. The idea here is to remind readers of the various airfield names – including aerodromes that were proposed but not built and those that were proposed and commenced but not completed – give a *brief* description, include a period aerodrome diagram (if available), a vertical or oblique photo or two (again, if available) and then a much more modern, public domain type vertical image to show what it looks like "now". Each entry will be headed with:

AERODROME NAME

[Also Known As]

{Aerodrome Abbreviation}

Latitude and Longitude

Just a reminder, this is NOT intended to be a detailed history of each airfield. The purpose is simply to touch on each aerodrome in a very basic *what it was and what it now is* type of approach.



Portion of Drawing No. 42/43/2914, Aerodromes and Landing Grounds in the Northern Territory between Darwin and Birdum, 1943. Here showing the airfields in this instalment. [NLA obj-233091255].

The airfields covered here in Part 1, are:

District	Name	Location	Position
DARWIN	DARWIN CIVIL	DARWIN	12°26'S 130°50'30"E
	DARWIN RAAF	DARWIN	12°25'30"S 130°52'E
	SATTLER (20-Mile)	20 miles S DARWIN	12°33'S 131°03'30"E
	HUMPTY DOO	S.E. DARWIN	12°35'S 131°09'E
	STRAUSS (27-Mile)	27 miles S DARWIN	12°39'30"S 131°04'30"E
	HUGHES (32-Mile)	30 miles S DARWIN	12°41′30″S 131°05′30″E
	LIVINGSTONE (34-Mile)	34 miles S DARWIN	12°43'S 131°06'E
	LAKE DEAN		12°46'S 131°00'E
	RIDING (36-Mile)	36 miles S DARWIN	12°46'S 131°06'E
	FRAZER (41-Mile)	38 miles S DARWIN	12°48'30"S 131°09'E

The Flying Boat bases of EAST ARM [ZEA] and DOCTOR'S GULLY [ZDG] have not been included due to a lack of tangible runways. The location of EAST ARM was 12°29'S 130°51'E and DOCTOR'S GULLY, 12°27'30"S 130°50'E.

DARWIN CIVIL [Parap] {DCV} 12°26'S 130°50'30"E

A pre-war civil aerodrome, as at July 5th, 1943, Darwin Civil was described as being an existing Operational Base – although temporarily noted as being a Relief Landing Ground – suitable for Fighters in any weather conditions. The airfield elevation was quoted as being 50 feet. It comprised two sealed runways: Runway 12 (122°M) of 3,600 feet and Runway 18 (178°M) 2,200 feet with 9 Medium Bomber and 24 Fighter Dispersals – but the temporary notation referring only to 13 Fighter Hardstands.⁶



Darwin Civil, also known as Parap, taken by 1PRU from 10,000 feet on 20 July, 1943, at about 10:30 am. [NLA Map Aerial Photograph Collection, Series D 52 4 32, BibID 5012104. Frame V31].

The main runway, running diagonally from upper left, passing to the south of (i.e. beneath) the racecourse to lower right, is now Ross Smith Avenue. The north-south runway doesn't exist anymore, but its alignment would probably have it running through, or slightly to the west of, what is now the Parap Swimming Pool. Fanny Bay Gaol is the group of buildings just inland from the low cliff tops at the northern extremity of Vestey's Beach (adjacent to the threshold of runway 12). Aside from providing dispersed parking bays, no effort had been made to splinter-proof or camouflage the "original" northern dispersal area. Having said that though, some cover was available to the few bays along the northern edge of the loop afforded by trees. The dirt road in the image that runs from the bottom left of the picture up and then veers to the left to run along the cliff top at the northern end of Vestey's Lake" which is the small swampy puddle at the left of this image. The narrower north south road, in the centre of the picture, which runs from the Stuart Highway up towards the main runway is Parap Road. The largish building about halfway along on the western side of the road is the Parap Hotel. The apron area and Qantas hangar are in the middle of the image. The Southern Dispersal became the workshops area for Number 7 Repair and Salvage Unit (7RSU).



RAAF Landing Ground Darwin Civil, Drawing No. 43/44/K579A dated 18/4/44. [NAA: A705, 171/6/144].

The aerodrome diagram, above, shows Runway 12 extended to 4,900 feet long with a 500-foot long over-run for Runway 30; 24 Dispersals (the original Fighter Dispersals?) and 41 sealed Fighter sized dispersals, a Hardstand at the Runway 12 end and an Alert Area at the Runway 30 end.



Darwin Civil from 20,000 feet on 29th August, 1944. [NLA Map Aerial Photograph Collection, Series D 52 4 32 BibID 5012049].



All urban now. The racecourse was reshaped. Old QANTAS Hangar circled in red and the approximate location and alignment of the original north-south runway in dashed-blue. [Google Earth image dated June 21st, 2009].

DARWIN (RAAF) {DAR}

12°25'30"S 130°52'E

Constructed by the Department of Interior prior to the Second World War, its function was as an All Weather Heavy Bomber field.⁷



Frame VX203 of a sequence of vertical images showing Darwin RAAF Station on 2nd June, 1942. The original 4runway layout is evident as are a large number of bomb craters. [NLA Map Aerial Photograph Collection, Series D 52 4 32 BibID 5012046, obj-395055142, frame VX203].

As at July 5th, 1943, it was reported as being an existing Operational Base suitable for Medium Bombers in any weather conditions. Elevation 90 feet. Comprised two oiled gravel runways: Runway 18 (177°M) of 5,600 feet and Runway 13 (131°M) 5,730 feet with 14 Medium Bomber and 41 Fighter Dispersals plus 10 Hardstands.⁸

After an intense airfield expansion program, a field inspection dated October 12th, 1943, only three months after the report in the previous paragraph, described RAAF Darwin as being an Operational Base suitable for Heavy Bombers in any weather conditions. Runway 18, whilst still 5600 feet in length was now sealed, Runway 13 was now a sealed runway 10,000 feet long with an additional 1,400 feet of concrete over-runs (700 feet at each end) plus a sealed parallel runway 13 (in effect Runway 13 Left) 5,000 feet long. The base now had approximately 12 miles of sealed taxiways, two transport aprons each 1,200 feet by 200 feet, 78 sealed Fighter Dispersals and 44 Bomber Dispersals plus two 600 feet by 100 feet Alert Areas. It had 5 permanent hangars, 9 underground fuel storage tanks, 2 underground oil storage tanks plus various technical workshops.⁹



Layout Plan of RAAF Darwin, Drawing No. 42/43/1224D. [NAA: A9716, 7].



RAAF Darwin from 20,000 feet on 29th August, 1944. Vastly different from its appearance just 2 years before. [NLA Map Aerial Photograph Collection, Series D 52 4 32 BibID 5012047, frame V19].





This 1950 image shows that, at that time, RAAF DARWIN was being maintained in its former wartime design. This image was taken by 87SQN on 15th July, 1950, from 18,000 feet. [NLA Map Aerial Photograph Collection, Series D52 4 32 BibID 5012305 obj-743382186, frame 5032].

19 100 Cham Shoal Bay Beach Charles Koolpinyah DAR FE Dog



Works have commenced on the new main runway in this image taken by 10SQN on 19th May, 1956, from 24,000 feet. [NLA Map Aerial Photograph Collection, Series D52 4 32 BibID 5012310, obj-743654647, frame 5004].





Darwin International Airport (north of the main runway centre line) and RAAF Darwin (south). The alignment of the old main runway in red and the location and alignment of the original 4-runway pattern in dashed-blue. [Google Earth image dated June 21st, 2009].

Darwin remains a current RAAF Base (runways and all facilities on the southern side, plus to the north east of the airfield) and Civil International and Domestic Airport (facilities to the north of the main runway). Of the wartime runway complex, only the north south runway remains. The main and parallel runways of the mid 1940's were replaced in the mid to late 1950's with a re-aligned main runway which is the main east – west runway today. A remnant of the old concrete threshold of Runway 13 is still visible as are portions of the taxiways that were connected to it as well as the "shadow" of some dispersals and taxiways a few hundred feet down the runway from that threshold. Some other taxiway remnants and "shadows" still exist to the east and west of the north – south runway on the RAAF side.



SATTLER

[20-Mile]

{SAT}

12°33'S 131°03'30"E

Located alongside the 20-mile peg south of DARWIN and built by No. 1 Mobile Works Unit, RAAF, during 1942 – 43,¹⁰ it was named in honour of FLTLT G. Sattler of 13SQN who was listed as missing believed killed after action against MANADO, near NAMLEA on 12th January, 1942.¹¹ Even though it was a fighter base, it was constructed to handle Medium Bomber sized aircraft in any weather. Its location was 12°33'S 131°03'30"E and its elevation was quoted as being 140-feet. It had a single, sealed, runway 5400-feet long and 100-feet wide aligned 141°. It was equipped with 19 Medium Bomber sized dispersal bays.¹²



RAAF Landing Ground Sattler Drawing No. 42/43/1226B, no date – but remarks on serviceability as at 11-12-44. [NAA: A9716, 7].
A field inspection dated November 28th, 1944 described RAAF Landing Ground SATTLER as now being a Dispersal Base suitable for Medium Bombers. Runway 14 was described as reduced to 5,490 feet in length although it had the possibility of being extended another 1,000 feet to the south east. The runway strip was cleared to a width of 300 feet, of which 140 foot width was graded and the runway itself was 100 wide. Two circular taxiways, one at either end on the western side together contained 18 primed Medium Bomber Dispersal Bays, each with revetments and camouflage and 12 primed temporary fighter bays.¹³

The aerodrome diagram, previous page, notes that as at 11-12-44, the taxiways were oiled gravel, 30 feet wide and cleared to a width of 100 feet connecting 18 splinter proofed Medium Bomber Hardstands, 12 earth mounded Fighter Bays and 12 primed temporary Fighter Bays.¹⁴



The former RAAF Landing Ground SATTLER. Here seen on 15th July, 1950, from 15,000 feet. [NLA Map Aerial Photograph Collection, Series D 52 4 40 BibID 5012327 obj-262175619, frame 5031].



Visible remains of the former RAAF Landing Ground SATTLER. Its runway, hard up against the western side of the Stuart Highway, the two circular dispersal loops and the connecting dispersal track between the two, are still evident. [Google Earth image dated 29th May, 2017].

SECRET
Selected Airfields
LIVINGSTONE Field Inspection 1/12/44.
LOCATION 34 miles by road, 24 miles by air, 55 of Darwin Parallel and immediately adjacent and west of N- S road. 6 miles S of Moomanh Bly.
HISTORY AND STATUS
Constructed by 808 U.S. Engineers. Function - Fighter.
RINWAYS
169° mag. 5000' x 100' Sealed gravel.
STRIP COOLINE El Leben Hidge, - & Webela Dioves
One side of runway.
POSSIELE EXTENSIONS
300/400 only NW and SE.
DISPERSAL DISC - To Information.
14 miles of primed and gravel taxiways, cleared width looft. 40ft with primed gravel.
35 Hardstandings (16 revetted, camouflaged primed) 17 " " gravel " "
22 Temp. Hardstandinge [11 mound gravel] 3 " primed 5 " " 3 mound camouflaged gravel)

HUMPTY DOO

12°35'S 131°09'E

In mid-1943, the site was a proposed Long Range Fighter Operational Base to be located at 12°35′S 131°09′E. It was to have had an airfield elevation of 100-feet and a single 5000-foot runway aligned 133°. Plans were drawn for this airfield however, copies have not yet been located.¹⁵



No Airfield evident in this Google Earth image. For reference, the cross-road intersection in the centre (slightly low) is in position 12°34'57"S 131°08'54"E. The airfield would have been on the south side of the road. [Google Earth image dated 29th April, 2019].

I'm guessing the east to west road in the above image would be on a bearing of about 100° when heading from left to right in the picture.

STRAUSS

[27-Mile]

{STR}

12°39'30"S 131°04'30"E

Built by the 808th United States Engineer Battalion (Aviation), with re-gravelling of the runway, taxiways and Splinter Pens (Dispersals), camouflage work and sealing of the runway undertaken by the RAAF,¹⁶ STRAUSS was located 27 miles south of DARWIN and named in honour of Capt. Allison W. Strauss, 8th PS, 49th PG USAAF, who was killed in action over DARWIN on 28th April, 1942.¹⁷ STRAUSS was a Fighter Operational Base with a field elevation of 160-feet. It had a single, sealed, 5000-foot by 95-foot runway aligned 166° and 29 Fighter sized dispersal bays.¹⁸



RAAF Landing Ground Strauss, Drawing No. 42/43/1013[D?] in RAAF and USAAF Airfields in Australia and SWPA during World War Two Part I. [AWM R940.544994 R111 Pt.1].

An undated aerodrome diagram (Drawing No. 42/43/1013[D]) contains notes on serviceability as at 11-12-44 which states that the oiled gravel taxiway's now connected 28 oiled gravel splinter proofed and camouflaged Dispersal Bays and 18 temporary primed hardstands.¹⁹



RAAF Landing Ground STRAUSS on 21st September, 1943, from 10,000 feet. [NLA Map Aerial Photograph Collection, Series D 52 4 40 BibID 5012109, obj-262170925].



The former RAAF Landing Ground STRAUSS, 15th July, 1950, from 13,000 feet. [NLA Map Aerial Photograph Collection, Series D 52 4 40 BibID 5012112, obj-262175367].



RAAF Landing Ground STRAUSS; located between the (old) railway line, seen here running north to south left of centre and to the west of STRAUSS's dispersals and, the Stuart Highway; typically for many of these airfields, the runway was located hard up against the western verge of the highway. [Google Earth image dated 4th May, 2017].



HUGHES

[32-Mile]

{HUG/HGS/HUG}

12°41'30"S 131°05'30"E

Built by the 808th United States Engineer Battalion (Aviation), with re-gravelling of the taxiways, drainage works, extending and sealing for the runway, construction of Splinter Pens (Dispersal Bays) and general camouflage undertaken by the RAAF.²⁰ Hughes Strip in mid-1943 was recorded as being an existing Operational Base capable of operating Medium Bomber sized aircraft in any weather. It had an airfield elevation of 190-feet and comprised a single sealed 6600-foot runway aligned 143°. It was equipped with 21 Medium Bomber sized and a solitary Fighter dispersal bay.²¹ However the length quoted might include a typographical error as the runway was 6,060 feet long.



Diagram (Drawing Number not known) of RAAF Landing Ground HUGHES showing the extent of a proposed runway extension and new northern and southern dispersal loops. These proposed works were not proceeded with. [NAA: A705, 7/1/1335].

Named after the pre-war Northern Territory Director of Mines, Mr. W.A. Hughes, it was unique in terms of "named" airstrips south of Darwin in that it was the only one to carry the name of an individual who was not a member/recently former-member of the RAAF or USAAC.

From a field inspection dated November 23rd, 1944, RAAF Landing Ground Hughes was described as having one and a half miles of oiled gravel taxiways leading to 21 oiled gravel Medium Bomber dispersals of which 18 were splinterproofed (i.e. revetted) and camouflaged with overhead netting. The single Fighter Dispersal was camouflaged, with a further 25 primed dispersal bays and a Test Stop Butt for firing aircraft guns had been built across the entrance to one of the dispersal bays. The runway could accommodate a possible extension out to 8,000 feet. Airfield facilities included two underground fuel storage tanks each of 120,000 imperial gallons capacity, miscellaneous stores buildings but no workshops or hangars. The Duty Pilot's Tower was situated on the western side of the runway north of centre.²²

The diagram on the previous page illustrates the two extra proposed taxiway loops and a possible – minor – extension to Runway 32 (dashed lines). Judging by the splays drawn on the diagram, it would not have been extended beyond the existing northern loop taxiway; indeed it could not have been, because the Darwin road would be in the way and having to deviate the major (only) road supply route into and out of Darwin would have been a curious and expensive thing to do. Not to mention the proximity of RAAF Landing Ground Strauss, just up the road. The proposed lengthening to 8,000 feet would have to have been an extension of Runway 14 – that is, to the south east.

The two associated camps for this airfield known as Camp E and Camp F were sited at opposite ends of the airstrip. Camp [F?] [also known as North Squadron Camp?] was on the eastern side of the north-south Darwin road immediately to the north of the northern taxiway loop; its southern boundary is the dashed line on the extreme top left of the image on the next page. The associated RAAF Drawing No. 43/44/K500 which would give a layout of the camp has not yet been found. The other camp – Camp [E] was on the western side of the road adjacent to the threshold of Runway 32 (that is adjacent to the southern end of the runway).

A portion of which is visible in the bottom left-hand corner of the image on the next page. According to the original image from which the picture on the next page has been taken, the camp was rectangular in extent (as was the northern camp) 1/2 a mile long and 3/8 of a mile wide. Its associated drawing (No. 42/43/K221C) also has not yet been found.

Camp E was supplied with water from the Darwin Mains. Sewerage facilities were limited to incinerator type, there was no electricity and no refrigeration. No information was available on sleeping capacity, but messing capacity was for 200 Sergeants and between 300 and 500 Other Ranks – no officers. The latrines could cater for 192 officers, 64 sergeants and 384 O/R's and the ablutions could deal with 112 officers, 48 sergeants and 288 O/R's. (It seems that Camp E wasn't good enough for the officers to eat at, but it was good enough for them to go there and void themselves, although not all of them could then go and wash their hands ..!).²³

Camp F received its water from bores and storage tanks. Incinerator type sewage was supplemented by pits and it had the luxury of RAAF supplied (i.e. generator) electricity and refrigeration. Camp F was the place to be though. It could feed 400 officers and sergeants and 750 O/R's; 80 officers, 112 sergeants and 256 O/R's could then go to the dunny and all of them could wash their hands – there was enough spare capacity that they could bring a friend – 96 officers, 160 sergeants and 416 O/R's could keep clean.²⁴



Hughes Strip taken by 1PRU on 21st September, 1943 at 9:55 am from 10,000 feet. The taxiway connecting the northern loop and the southern loop was still many months away from construction with clearing yet to commence. I've rotated the image so that north is up, here indicated (approximately) by the red arrow. [NLA Map Aerial Photograph Collection, Series D52 4 40 BibID 5012372 frame, V3].



Visible remains of the former RAAF Landing Ground HUGHES. The airfield is now off-limits due to its allotted, occasional, use by fire bombers. The wholesale clearing of land is particularly evident to the west of the Stuart Highway and is, unfortunately, now typical of the region. [Google Earth image dated 5th September, 2016].

LIVINGSTONE [34-Mile] {LIV} 12°43'S 131°05'E

LIVINGSTONE was another airfield built by the 808th United States Engineer Battalion (Aviation), with re-gravelling of the runway, taxiways and Splinter Pens (Dispersals), camouflage work and sealing of the runway undertaken by the RAAF.²⁵ Located 34 miles south of DARWIN it was named in honour of 2nd Lt. John D. Livingstone, Jnr, 9th PS, 49th PG who was killed at the airstrip whilst making a forced landing after his aircraft had been damaged in action on 4th April, 1942.²⁶ By mid-1943 it was an existing Operational Base suitable for fighter type aircraft in any weather. Its position was 12°43'S 131°05'E and it comprised a single sealed runway 5000-feet long and 95-feet wide aligned 167°. The airfield elevation was quoted as being 160-feet and 34 fighter sized dispersal bays were provided.²⁷



RAAF Landing Ground Livingstone Drawing No. 42/43/1012O. [NAA: A9716, 7].

Data collected from a field inspection dated December 1st, 1944, quoted the runway bearing as being 169° magnetic. The runway strip (the cleared, graded area usually surrounding a runway) was on one side of the runway only – an unusual feature – which seems to have been on the western, or taxiway, side of the runway. Any future expansion to the runway could only be an additional 300 or 400 feet to the northern and southern ends. There was one and a quarter miles of primed gravel taxiways leading to 16 primed, revetted and camouflaged dispersals, and a further 19 gravel only revetted and camouflaged bays. In addition there were 22 temporary dispersal bays: 11 gravel with earthen mounds, 8 primed with earthen mounds and 3 gravel with earthen mounds but also camouflaged.²⁸ Two 12,000 imperial gallon underground fuel tanks were sited just west of bays 27 and 29; bay 29 was the fourth bay north of the stop butts on the western side of the taxiway joining the southern and northern loop taxiways.²⁹



RAAF Landing Ground LIVINGSTONE on August 9th, 1944, from 20,000 feet. [NLA Map Aerial Photograph Collection, Series D BibID 5012358, frame V78].

Livingstone had two camps, North Camp and South Camp. North Camp was supplied with Darwin Mains water, kitchen facilities to cater for 300 officers and sergeants and 300 other ranks. Pit and incinerator type latrines for 240 people, ablutions for 97 officers, 48 sergeants and 336 other ranks.³⁰

South Camp, about two and a half miles south of the field,³¹ was also supplied with mains water. Messing for 380 officers and sergeants and 300 other ranks and latrines for 48 officers, 48 sergeants and 480 other ranks; with ablutions also for 48 officers, 48 NCO's but only for 384 other ranks.³²



My – how things have changed. The former RAAF Landing Ground LIVINGSTONE. The runway has been obliterated by the "new" Adelaide to Darwin rail line. The northern half of the airfield immediately to the west of the runway has been laid waste by development. Despite this, faint shadows of the northern dispersal loop and the adjoining taxiway a (just) visible in this shot. The southern half of that taxiway and the southern dispersal loop are on private property. [Google Earth image dated 5th September, 2016].

LAKE DEAN

12°46'S 131°00'E

In mid-1943, a proposed Operational Base for fighter aircraft to have been located at $12^{\circ}46$ 'S $131^{\circ}00$ 'E. The site elevation was 60-feet.³³ It is believed that the proposal was abandoned in favour of RIDING – see next page.

RIDING

[36-Mile/Lake Dean]

12°46'S 131°06'E

The location of this airfield, whilst listed as "Not Started", was given as being in position 12°45'S 131°05'E.³⁴



Proposed RAAF Landing Ground Riding Drawing No. 42/43/2927. [NAA: A9716, 1163].

The runway was positioned immediately to the west of the north-south road and hard up against the verge with the 36-mile peg being on the road side adjacent to the intersection of the taxiway loops approximately mid-runway.

As at July 5th, 1943 RAAF Landing Ground Riding was listed as being Under Construction (with a revised latitude and longitude) and was planned to be a Medium Bomber and Interceptor Fighter facility suitable for use by aircraft up to Medium Bomber size in any weather conditions. Airfield elevation is recorded as being 190 feet. It was supposed to have a single runway, Runway 15 (magnetic bearing 150°) of 6,000 feet length with taxiways connecting 30 Medium Bomber and 6 "Double" Fighter Dispersal Bays.³⁶

Prior to work being suspended, the taxiways and the runway had been cleared of timber and some gravel spread to begin forming the runway.³⁷



Works progress at RIDING, taken at 9:45am on 21st September, 1943, from 10,000 feet. [NLA Map Aerial Photograph Collection, BibID 5012358, frame V1].

The location of that intersection has been circled in red here and on the Google Earth image, below. The cleared line running from just north of the 36-mile peg off to the upper right of the image is pretty close to magnetic north



Riding, NT. The intersection, here circled in red – which would be adjacent to the 36-mile peg marked on the layout diagram reproduced above, is located at 12°45'S 131°05'53"E. [Google Earth image dated 5th September, 2016].



FRAZER

[41-Mile/38-Mile/Manton Dam]

12°48'30"S 131°09'E

This proposed airfield, "FRAZER" (with a "Z"), had been surveyed with works commenced; it was to have an airfield elevation of 290-feet and a sealed gravel runway of 6000-feet length and 150-foot width aligned 115°. It was going to be developed to be able to handle Heavy Bomber aircraft in any weathers and was to have been equipped with 41 Fighter sized hard-standings.³⁸



Proposed RAAF Landing Ground FRAZER. [AWM: R940.544994 R111 Pt.1].

Confusingly, there were two, separate, proposed airfields with the same sounding name – this one, "FRAZER" (with a "Z") and "FRASER" (with an "S"). FRASER (with an "S"), was listed as being also known as VAUGHN [sic] or as 321-Mile but with a location of 12°48'S 131°09'E and being near MANTON DAM (above this is a small hand-written note, "5 mile Nth Larrimah"). The latitude/longitude and Manton Dam, go together; and the note "5 mile Nth Larrimah" goes with the alternative names of VAUGHN/321-Mile. It was named after SQNLDR S.J. Fraser of 2SQN, who was killed in an accident on 10th October, 1942.³⁹ The spelling for the airfield to be sited in the vicinity of Larrimah as being "FRASER" (with an "S") and being named after SQNLDR SJ Fraser of 2SQN is also quoted in Appendix "A" of a document titled, "North Western Area, Aerodromes – Finished, Started & Proposed" and therefore likely to be correct.⁴⁰ So, after whom was this – FRAZER (with a "Z") also known as 41-Mile also known as MANTON DAM – named after?

As at July 5th, 1943, FRAZER was listed as proposed base for Medium Bombers but suitable for Heavy Bombers in any weather conditions. Elevation is recorded as 290 feet. Was to have been comprised of a single sealed gravel runway: Runway 11 / 29 (115°M) of 6,000 feet length, with taxiways joining 41 Dispersals.⁴¹



Nothing to see here ... Frazer, NT. The intersection above the central cleared area is located at 12°48'35"S 131°08'56"E, very close to the aerodrome reference position quoted above. [Google Earth image dated 24th April, 2019].



Primary Sources

Landing Strips – North Western Area – Named After RAAF Aircrew Lost; NAA A9695, 14.

North Western Area – Aerodromes and Landing Strips (Existing and Projected) Named After RAAF & USAAC Pilots Killed or Missing During this War; NAA: A9695, 18.

North Western Area – Aerodromes – Finished, Started and Proposed; NAA A9695, 17.

RAAF and Civil Official Lists of Aerodromes, Emergency Landing Grounds and Flying Boat Bases Australia and Territories. NAA: A9716, 1555.

RAAF Directorate of Works and Buildings, Engineer Intelligence Section, Airfield Data. NAA: A9716, 7.

RAAF Directorate of Works and Buildings, Engineer Intelligence Section at Riding (36Miles) NT. NAA: A9716, 1163.

RAAF Emergency Landing Ground Pine Creek NT. NAA: A705, 7/1/1578.

RAAF Landing Ground Livingstone, Drawing Number 42/43/2334E. NAA: E380, 42/43/2334E.

Secondary Sources

RAAF and USAAF Airfields in Australia and SWPA during World War Two Part I. AWM: R940.544994 R111 Pt.1.



A series of RAAF aircraft in WWII – in Australia, New Guinea and the islands. Later, Europe and the Middle East will be included.



No.4 – RAAF Seagull V and Walrus

The 1930s were the "silver wings" era of the RAAF. Having discarded the last of its WWI "Imperial Gift" aircraft at the beginning of the decade,⁴² the Service survived through the Depression's limited funds and, to some extent, limited direction until the end of the decade – to find it was not prepared for war.

The aircraft operated during this decade were primarily the Bristol Bulldog, Hawker Demon and Westland Wapiti, the twin-engined Avro Anson, Supermarine Seagull seaplanes, and D.H.60 Moth trainers. Invariably these were in all-over Aluminium finish, until camouflage was hastily considered during the SEP 1939 rush to war, and soon new camouflaged Wirraways and Hudsons were entering service.



[RAAF PR]

The restored Hawker Demon of the RAAF Museum, outside at Point Cook

The Seagull V was designed by Supermarine to an RAAF specification.⁴³ In 1925, RAAF CAS AVM Richard Williams had visited Supermarine works and purchased six Seagull III, and later a further three used aircraft were obtained. After this, the seaplane tender HMAS *Albatross* was commissioned, which developed fleet cooperative operation and procedure (if not doctrine) between the Services, to the extent that Williams pursued the seaplane concept. Williams gave Supermarine the specification for a Seagull III replacement, which became the prototype Seagull V.



[colour image from adf-serials]

A2-14 prob at Richmond c1937 – of interest thin White outline to fuselage "A2" roundel and serial number

RAAF Chief, AVM 'Dickie' Williams, claimed the specification had originated in 1926 for a catapult-launched boat amphibian when the RAAF was about to equip HMAS *Albatross*, with its obsolete Seagull IIIs. This spec called for a metal boat fuselage and metal wings. While most British manufacturers ignored the Australian requirement, the Vickers Supermarine company came up with a design to fit the specification and offered to build a prototype. The company advised the design would be ready sooner if the wings could be constructed of wood with fabric-covering, to which Williams agreed.⁴⁴ The first reference to the "Seagull V" dates back to NOV 1932, when Supermarine designer R J Mitchell showed that although his concept was based on the earlier Seagulls, the Seagull V was a complete redesign using a one-step hull.⁴⁵ It was powered by a pusher radial Bristol Pegasus IIM2.



['Supermarine Aircraft', p.143] Prototype Seagull V registered N-1 which flew in JUN 1933

The prototype flew on 21 JUN 1933,⁴⁶ involving take-offs and landings from Southampton Water, and at Eastleigh aerodrome.⁴⁷ The prototype, marked with the Class-B registration N-1,⁴⁸ appeared at the SBAC Show at Hendon on 26 JUN, giving a lively aerobatic demonstration, including a loop.⁴⁹ But 'Dickie' Williams remained adamant when visiting Supermarine's Woolston plant in NOV 1933 that catapult launches needed to be demonstrated. Initial catapulting tests of the prototype (now serialled N-2) at Farnborough in JAN 1934 were not completely successful, with some buckling of the fuselage, and strengthening was required. However, despite some criticism of the Seagull's landplane performance from RAF trials at Felixstowe and Martlesham, the British Air Ministry framed its specification 6/34 around this design, soon placing its first order in MAY 1935, and adopting the name 'Walrus'.⁵⁰

Approval for the RAAF purchase of 24 Seagull V amphibians (to be serialled A2-1 to A2-24) was given in JAN 1934 (although the decision was not made public until that MAY),⁵¹ with the formal order being placed with Supermarine in AUG 1934. Williams later admitted that he had signed the contract for the 24 aircraft without any Treasury authorisation⁵² – the initial 'nod' of JAN 1934 was from the catapult demonstration, and the delay of the public announcement in MAY was probably due to gathering 'bean counter' approval.



Now registered N-2, the prototype on the catapult at RAE Farnborough in JAN 1934

Demonstrating successful catapult launch trials were a precursor before the RAAF contract for the Seagull V was signed The first two Australian aircraft (A2-1 and A2-2) were received by the RAAF in UK in 1935 to be embarked by HMAS *Australia* and HMAS *Sydney*. Various teething troubles were ironed out on A2-1 before it passed acceptance trials at Felixstowe and Martlesham, and then was displayed at the JUN 1935 RAF and SBAC Hendon shows.⁵³ **A2-1** was delivered to HMAS *Australia* at Spithead on 9 SEP 1935, and **A2-2** was delivered to Lee-on-Solent on 18 OCT 1935 for embarkation on HMAS *Sydney*.⁵⁴ These RAN cruisers had been fitted with catapults (as had home-based seaplane tender HMAS *Albatross*),⁵⁵ and both conducted 1936 Mediterranean service embedded with RN cruiser squadrons.



A2-1 with side number 11, at the SBAC show at Hendon in JUN 1935

The new type created interest in the RN and RAF – with testing off Gibraltar on HMS *Courageous* and HMS *Renown* in late 1934, and catapult trials conducted from HMS *Ark Royal* – so the prototype was purchased by the RAF as K4797. The first British order was on 18 MAY 1935 for 12 aircraft (K5772-K5783) on the revised specification 2/35. The prototype continued naval testing through 1935 during cruises to the British West Indies and home waters. Aboard HMS *Nelson* acting as the "Admiral's barge" on 4 OCT 1935, K4797 was transporting the new commander-in-chief from Hendon to *Nelson*, when the pilot in alighting alongside... "forgot to retract his undercarriage. The machine turned turtle and its occupants had to be rescued. The Seagull was salvaged to be returned for repair."⁵⁶ An undercarriage position warner was then fitted, possibly the first ever, as retraction was still a novelty.



['Supermarine Walrus' p.52] A2-1 the first production Seagull V landing at the Hendon SBAC Show in JUN 1935, side number '11'

After its first flight on 25 JUN 1935, A2-1 was flown to Hendon carrying the side number '11' (a display number rather than a ship's code), where it was demonstrated on the ground and in the air.⁵⁷ It was delivered to HMAS *Australia* on 9 SEP 1935.



A2-1 aboard HMAS Australia at Spithead JUL 1935

Other firsts were that it was the first British military aircraft with drag-reducing retractable undercarriage. Also, for the RAAF, was the Seagull V's enclosed cabin for the three crewmembers – a novel advancement and a definite improvement in crew comfort from the hitherto 'hair in the breeze' of open cockpit aviation. Also the aircraft had a short 300-yard take-off roll and a similar landing run – the Walrus in its final form was never fitted with an arrestor hook for deck landings, unique among naval aircraft.⁵⁸



[RAAF 000-148-409]

A2-8 demonstrates the comfort of an enclosed cockpit

The first British Air Ministry order for 12 Walrus aircraft were built immediately after the first 12 for Australia (A2-1 to A2-12), so this caused a delay of six months of the RAAF's second batch (A2-13 to A2-24). Meanwhile, with the RAN deployment with A2-1 aboard *Australia* and A2-2 on *Sydney*, it became necessary to call upon a new delivery as a replacement. A2-1 had suffered major damage being hoisted aboard *Australia* at Alexandria on 26 MAR 1936: ⁵⁹

"It so happened that the First Lieutenant, Lt Cdr V.E. Kennedy was also the Observer. Because he was in a hurry to get back on board after a flight he got a boat to take him from the aircraft to the ship, ... leaving the Telegraphist Air Gunner to hook on, which I normally did, standing on top of the aircraft centre section to do so. The TAG hooked on then climbed down into the interior of the aircraft. Had he (or I) stood in the normal

position we must have been severely injured when the crane jib was at maximum elevation because the new slip parted, dropping the Seagull bodily on top of a 4-inch AA Gun. Luckily no one was severely hurt, the Seagull was a mess."



British cigarette cards showing the HMAS Sydney-embarked A2-2 1936

A2-1 was returned to Supermarine and was replaced immediately by A2-12, which had first flown on 7 MAR 1936. A2-12 was immediately shipped from the factory to Malta, and embarked upon HMAS *Australia* at Valetta on 23 APR. In APR 1936 the second production Walrus K5773 flew with the more powerful Bristol Pegasus VI engine. With the completion of the first Walrus batch in JUL 1936, the Air Ministry therefore changed the specification under Requirement 29/35 so that future Walrus production had the upgraded 750hp Pegasus VI in place of the 625hp Pegasus IIM2.⁶⁰ (Later in RAAF war service, some Seagulls received the Pegasus VI.⁶¹) By the end of 1935 a further 36 Walruses were ordered to equip the RN's new *County* and *Town* class cruisers then being built.⁶² The final Australian Seagull V (A2-24) flew on 28 APR 1937, so was the last with the lower powered engine. By the time A2-24 had been delivered, the RAF had received 40 Walruses. The Seagull V was also unique with retractable leading-edge slat lift devices on the upper wings, designed to reduce stall speed, but these were not incorporated into the Walrus design.

An aspect of the Bristol Pegasus air-cooled radial installed as a 'pusher' was that its slipstream impinged on one side only of the vertical fin which set up a yawing moment. This torque was countered by angling the engine mounting by 3° to starboard, which remained standard for all Walrus production.⁶³



CRUISER HOISTING IN SUPERMARINE "WALRUS" AMPHIBIAN

As embarked Seagull Vs embedded with RN fleets were due for periodic servicing, they were replaced by dispersed RN Walrus I aircraft, often as an exchange or a loan. Ultimately the RAAF realised that to meet it attrition responsibility, more aircraft would be required in bulk, and any such replacements were going to be the Walrus.

Supermarine made a total of 285 metal-hulled Walrus Mk.Is between 1936 and 1940. The first order of 310 Spitfires on 3 JUN 1936 was followed the next month by the largest Walrus order to date for 168 aircraft – serialled L2169 to L2336.⁶⁴ To allow accelerated Spitfire production, Walrus production was moved to a new plant at Woolston, and then in 1940 sub-contracted to Saunders-Roe (Saro) at Cowes, Isle of Wight. 461 were made by Saro,

of which 191 were the wooden-hulled Mk.II – total production for the Walrus was 746. The Walrus II was used for aircrew training in the UK, as although heavier, it was easier to repair. In addition, with wartime material restrictions, woodworkers avoided extensive use of priority light alloys. The Mk.II was found 'smoother and much quieter', and a Saro enhancement replacing the original metal wheel by a rubber-tyred tailwheel was quieter on runway landings.⁶⁵



[AWM 304489]

A2-1 catapulted from RAN cruiser HMAS Canberra in 1939, with HMAS Adelaide in the background

Serial Number	Model Type	Aircraft Mark	Remarks	
A2-1 to A2-24	Seagull	Mk. V	24 aircraft ordered pre-was in 1934 on Order O.I.416 with Bristol Pegasus IIM2 engines.	
RAF Serials	Walrus	Mk. I / II	38 ⁶⁶ transferred from the RAF and RN, of which three were Mk.II. Of these 38, coincidently 24 appear to have been purchased on RAAF Overseas Indents, the remainder exchanged or on loan. Pegasus VI engines.	

By DEC 1941 at the outbreak of war in the Pacific, the RAAF had ordered six Walrus amphibians⁶⁷ – in the event, seven were delivered in MAY 1942 to Sydney, for assembly by QANTAS at Rose Bay. Two further batches of seven were received 1942/1943.



[colourised from AWM P01254.159]

A2-3 at Point Cook, serving with 1FTS Seaplane Sqn over 1936-1938, shows its leading-edge slots

WALRUS ACQUISITIONS

As the original RAAF procurement of the Seagull V in 1935 had been for a specific – and relatively small – batch of unique aircraft, attrition replacement was always going to be an issue, especially with war approaching. (Replacing the Seagulls is discussed in our *Telegraph Vol 9 Issue 1, Autumn 2019*.⁶⁸) Fortunately UK had adopted the Seagull V design as the Walrus I, with very few changes. With RAN cruisers dispersed amongst the Royal Navy fleet, a method of simply swapping airframes soon became an expeditious way of maintaining a viable serviceable capability. Initially these aircraft were exchanged one-for-one replacements as required with the RN and the RNZN, or sometimes 'on loan'. But this ad-hoc procurement was insufficient to sustain the RAAF's force of seaplanes in the Pacific for 9SQN, seaplane training and the Comms Units, which needed constant supplementing. So apart from the exchanged aircraft, the RAAF also bought four batches (one of three on O.I.799, then three batches of seven over 1942 and 1943) – for a total of 24. In all, 38 Walrus Mk.I and Mk.II were operated – the often quoted number of 37 was in error as the E/E.88 Aircraft Status Card for L2327 has been missing – sufficient records exist to track its service in the RAAF.

The first Walrus I was L2171, borrowed to replace Seagull A2-23 aboard HMAS *Hobart*. Similar replenishment occurred throughout 1940, typically in the Mediterranean in support of the early war effort against Axis forces, and the losses that were incurred are often overlooked. These exchanges and loans continued in 1941, until the first two batches were bought in 1942, and a third batch was acquired in 1943. Some later deliveries from 1943 included three Walrus Mk.IIs with the wooden hull.

Dates	Aircraft	Details			
1939					
NOV 39	Walrus I L2171	Exchanged to replace A2-23 aboard HMAS <i>Hobart</i> , returned to RN in Aden JUN 1940			
1940 JUN	Walrus I L2321	Exchanged for L2171 aboard HMAS <i>Hobart</i> in Aden; returned to RN Colombo, OCT 1941			
AUG AUG SEP NOV	Walrus I K8542 Walrus I L2247 Walrus L2318/19 Walrus L2177 Walrus I L2322	Loan to replace A2-21 aboard HMAS <i>Sydney</i> after war damage in western Desert, Cyrenaica Loan to replace A2-24 aboard HMAS <i>Australia</i> for service in Norwegian waters Both purchased ex RAF Singapore on O.I.799 and shipped to Sydney for 2AD 7/8 AUG 40 ⁶⁹ Loan to replace K8542 aboard HMAS <i>Sydney</i> at Aboukir, Egypt Loan from RN in Ceylon for HMAS <i>Westralia</i> , dam DEC 1940 and replaced by A2-11			
1941 JAN JUN	Walrus I L2243 Walrus I L2293	Exchanged for A2-17 damaged aboard HMAS <i>Perth</i> ; returned to RN NOV 1941 Purchased ex RAF Singapore (add on to O.I.799) and handed over to HMAS <i>Perth</i> 5 JUN 1941			
1942 JAN APR APR OCT	Walrus I L2327 Walrus I L2222 P5664, P5715, W2705, W2707, W2755, W2768, W2783 X9510, X9513 to	Loan, records incomplete, but embarked on HMAS Australia, crashed FEB 1942 Loan, received at Rathmines from HMS <i>Leander</i> ; to RNZN JUN 1942 and became NZ151 7 x Mk.Is purchased shipped to Sydney, recorded as being erected by QANTAS Rose Bay on 1 MAY 1942; W2707 to RNZN 6/42 and became NZ154; P5664 sold 1947 and became VH-BLD 7 x Mk.Is purchased JUN 1942, possibly O.I.1165 , ⁷⁰ shipped to Melbourne and erected by RAAF at			
1943 APR JUN	Walrus II Z1804 Z1811 Walrus I HD812, HD818, HD860, HD862, HD864, HD865, HD874	 Point Cook in late 1942 First Walrus Mk.IIs received in Sydney from UK on loan from RN, returned to RN FEB 1946 JAN 1944 a second Mk.II was received in Sydney on loan from RN, returned to RN FEB 1946⁷¹ 7 x Mk.Is purchased in MAR 1943 O.I.1255,⁷² shipped to Sydney, erected by QANTAS Rose Bay over JUN – SEP 1943; these aircraft often classified as Walrus Mk.II, but were the Mk.I variant⁷³ 			
1944	Walrus I L2231 W3085 Walrus II X9559	Loan, shipped to Sydney from UK, and erected by QANTAS Rose Bay Also on loan, erected by QANTAS Rose Bay, in JUN 1945 returned to HMS <i>Victorious</i> X9559 (third Walrus II) on loan, was destroyed by enemy action New Guinea OCT 1944			

EMBARKED SERVICE

The first two Seagull Vs for the RAAF (A2-1 and A2-2) were received in UK in 1935, and embarked on RAN cruisers embedded in the RN Mediterranean Fleet. HMAS *Australia* deployed to the Mediterranean in MAY 1935, and returned to England over JUN-SEP 1935 to take part in the Jubilee Review at Spithead on 16 JUL 1935. Then departing again on Mediterranean deployment, with A2-1 (coded 075) embarked, *Australia* served at Alexandria with the RN's 1st Cruiser Squadron until JUL 1936, before returning to Australia. Meanwhile A2-2 (076) was embarked on the new light cruiser HMAS *Sydney* which departed Portsmouth in OCT 1935. The Italian invasion of Abyssinia heightened tensions in the Med, and *Sydney* was diverted to join the 2nd Cruiser Squadron based in Gibraltar.⁷⁴ In MAR 1936, *Sydney* joined *Australia* at Alexandria, until departing for Australia in JUL 1936. The Imperial 'big navy' deployment for both ships over 1935-36 provided great experience for coming events.



[RAN Historical, Navy Heritage Collection No.03364]

Newly-commissioned HMAS Sydney, first RAN modified Leander-Class cruiser, at Portsmouth, waiting for A2-2

Soon added were light cruisers HMAS *Hobart, Perth* and *Adelaide*. In 1938, A2-1 was operated by HMS *Apollo*. HMAS *Albatross* was used as a training vessel, before going to the RN as a tender in 1938. Below is a list of RAN ships that initially deployed Seagulls up to the opening years of the War, with often these exchanged for RN Walruses.

RAN Ship	Class	Details		
HMAS Australia [II] Kent County-class heavy cruiser		A2-1, -12 1936; A2-5 1937; A2-18, -24, L2247 1940; L2327, W2705;		
		W2783 1942; A2-3, Z1804, X9520, W2755, W2705, X9516 1943		
HMAS Canberra	Kent County-class heavy cruiser	A2-3, -5 1936; A2-6 1937; A2-11, -9, -16 1938; A2-1 1939; A2-22,		
		L2318 1940; L2322, L2293, A2-22 1941; A2-16, W2768 1942		
IMAS Sydney [II] modified Leander-class It cruiser		A2-2, -7, -4 1936/37; A2-9,-18,-14 1938/39; A2-21, K8542, L2177 1940		
HMAS Hobart	modified Leander-class It cruiser	A2-1 1938; A2-7, A2-21, A2-23, L2171 1939; L2321 1940; A2-18,-9		
		1941		
HMAS Perth modified Leander-class lt cruiser		A2-4 1939; A2-17 1940; L2243, L2319 1941		
HMAS Adelaide Town Chatham-class It cruiser		A2-8 1939		
HMAS Manoora	armed merchant cruiser	A2-3, A2-12, L2319, A2-11 1940; L2319, A2-1, A2-5, A2-11 1941;		
		W2755		
HMAS Westralia armed merchant cruiser		L2322, A2-11, A2-8 1940; A2-14, A2-13 1941; P5664 1942		



[Supermarine Walrus, cover]

Seagull V A2-2/076 aboard HMAS *Sydney* **in the Mediterranean 1936** *"But for Australia, therefore, it is probable that there would never have been a Walrus at all."* ⁷⁵ From the late 1930s, RN Walruses were often swapped on an exchange basis with the Seagull V, when RAN vessels were in a port for repair, or if an aircraft needed replacement. Early exchanges were Walrus L2171 aboard HMAS *Hobart* in 1939; and in 1940 L2319 onto HMAS *Manoora*, and L2322 embarked on HMAS *Westralia*. L2293 replaced L2322 aboard HMAS *Canberra* in 1941, and by the end of that year, more inter-breeding with A2-16 replacing *Perth's* L2319, and A2-22 replacing *Canberra's* L2293. This was the way aircraft were exchanged – not only on Australian ships, but also British and NZ vessels.



[AWM 044700]

A2-18 embarked on HMAS Sydney over 1938-1940

There were no less than 14 aircraft of the Walrus or Seagull V types available on warships of the Mediterranean Fleet in mid-1940. HMAS *Hobart*, together with HMS *Leander* and HMS *Dorchester*, used the aircraft for bombing raids dropping 250-lb GP bombs during the rout of the Italian forces from Somaliland and Abyssinia.⁷⁶

During 1942, HMS *Leander* operated L2222, L2322 and A2-5; HMNZS *Achilles* had A2-12, W2755 and W2707. HMAS *Albatross*, which was transferred to the RN immediately prior to war as HMS *Albatross*, acted as a seaplane tender for the early war years – it was necessary to deflate the Walrus tyres with the hydraulic oleos let down to get the machine into the hangar.⁷⁷



[IWM A4053 colourised by RJM]

FAA Walrus hoisting aboard HMS Sheffield – an early TSS variation of Diagram A.D.1174

The lower colour of *Sky* selected by the colouriser would be unlikely, it is probably *Sky Grey*.⁷⁸ This aircraft, like all Walruses had spray deflectors (unless removed) fitted ahead of the side windows, which the Seagull V did not have.

Aluminium - Delivery Colours of the Seagull V 1937



[colour image from aaf-serials]

A2-14 received by 2AD at Richmond JAN 1937, and passed to 5SQN - the retracted upper wing slat is visibleInteresting to note the thin *White* outline to the fuselage roundel and the serial number (repeated on the rudder). The serial number was repeated in 8" numbers at the top of the rudder, and large 24" nose number '14' is similar to the large trainer numbers introduced in the RAAF during the 1930s. Sometimes the serial number was marked under the wings. The fuselage roundel was 24" diameter *Blue*, with a $\frac{1}{2}$ " outer ring marked by Supermarine on delivery; underwing roundel 60".⁷⁹



A2-11 soon after 1936 delivery to the RAAF, with 5SQN at Richmond, probably 1937 Several features of the Seagull – upper wing leading-edge Handley Page slots, the auxiliary "jury" struts temporarily fitted to enable wing fold, ⁸⁰ and lack of the side window spray deflector which was fitted to the Walrus.

Aluminium – A2-22 Seagull V with Fin Flash 1940



[colourised from RAAF 000-147-807]

A2-22 at Rathmines in late 1940, now with Yellow ring around M.3 roundel and M.4 fin flash

In MAY 1940, RAF policy directed a change to markings, adopted by the RAAF in OCT 1940. This is shown on Seagull A2-22 – a *Yellow* outer ring to fuselage roundels and *Red/White/Blue stripes* to the fin. Fuselage 25" "M.3" (type-A1) roundel, wings 60" roundel "M.2" (RAF type-A); the "M.4" flash the height of the fin with *Red* aligned to leading edge, *White* and *Blue* 15" wide each colour. *White* outline of serial numbers had now been discontinued.



Standard were the repeat of serial number at top of rudder, and the large 24" nose number.



The idyllic scene of the Seaplane Training Flight base at Rathmines

L2247 FAA-Loan Walrus Mk. I – HMAS Australia SEP 1940



L2247 aboard HMAS Australia about to embark on its final mission on 25 SEP 1940

L2247 was loaned in AUG 1940 from the RN to replace A2-24 aboard HMAS *Australia*. On a mission on 25 SEP 1940 supporting the British naval bombardment of the French Fleet at Dakar, it was shot down by three Vichy French Curtiss 75A (P-36) fighters. Note that the Walrus had a permanent leading-edge auxiliary strut beside the engine on each side, for wing folding. The photograph is by ortho film – with *Yellow* as dark, and *EDSG* appearing darker than the *Dark Slate Grey* (*EDSG* appears lighter on pan film).



TSS Diagram A.D.1174 – Unusual fin flash, each colour 20" wide, perhaps enlarged to display its "French-flag" colours to the Vichy French; type-A1 fuselage roundel was 35" (0.89m) diameter, type-A underwing roundel 60" (1.52m).

Fleet Air Arm Colours

			Upper TSS Camouflage	Lower TSS Camouflage		
\bigcirc			Extra Dark Sea Grey			
35" Fuselage type-A1 roundel	60" Underwing type- A roundel	60" Overwing type- B roundel	Dark Sea Grey	Sky Grey		

L2319 Walrus Purchase from RAF – HMAS Perth 1941

L2319 was one of a pair (with L2318) bought by the RAAF from the RAF in Singapore, and shipped to Sydney for receipt by 2AD at Richmond in AUG 1940. First embarked on HMAS Manoora in OCT 1940 to replace A2-12, L2319 transferred to HMAS Perth in DEC 1941, and on 27 FEB 1942 was lost in action against Japanese cruisers in Bantam Bay, north-west of Java.



[RAAF]

L2319 was purchased from the RAF and in FEB 1942 was lost aboard HMAS Perth

Standard RAF TSS colours, with 35" fuselage type-A1 roundel, 60" type-A underwing roundels and type-B upperwing, tall narrow fin flash 36" high x 15" wide (5" per colour). Serial number in *Black*, and repeated on the top of the tail.



operator and a British intelligence officer, ran into adverse foggy weather and crashed in Brittany - the first RAAF casualties of 10SQN.⁸³ The RAF Walrus, on loan to 10SQN, was L2312 of 15 GP Comms Flt.⁸⁴

A2-1 – Colours for War 1936–1944

Both A2-1 and A2-2 exercised on their delivery from UK through the Mediterranean – A2-1 was coded with pennant number **'075'** and A2-2 **'076'**. After the JUL 1935 Spithead Review, both A2-1 and A2-2 were part of the RN Meditaerranean Fleet in 1936. A2-1 was damaged in MAR 1936 at Alexandria when it dropped onto the gun deck, requiring return to Supermarine for repair and was replaced by A2-12. From 1937, all Seagull Vs in Australia were marked with the large trainer-type nose numbers on the nose, and A2-1 carried '1'.



[AWM P10575.003]

1936: A2-1 with RN code '075' in the Mediterranean with starboard fuselage and hull damage



RAAF NATIONAL MARKINGS

The designation of RAF national roundels as 'A', 'B', 'C', etc were developed in the 1950s, purely for simplicity. These British 'non-official' designators are attributed to author Bruce Robertson, used from his early benchmark Harleyford *Aircraft Camouflage and Markings 1907-1954*. The official terminology was both cumbersome and ambiguous – the same term could apply to different roundels at different times,⁸⁸ so Robertson's invention has simplified this. There is a discussion of this in Paul Lucas's fine book on the Battle of Britain camouflages which does use the official terminology – but at the expense of clarity.

As the RAAF followed markings policy of the RAF, major changes were about to occur from 1939. The Munich crisis, in SEP 1938, saw the RAF adopt camouflage finishes for the majority of its front line aircraft, and also the *Red* and *Blue* roundel on wings and fuselage as the wartime National Marking.⁸⁹ The RAF formalised this on **27 APR 1939** as **AMO A.154/39 – Identification Markings on Aircraft of Operational Units.**

RAF AMO A.154/1939 in its revision of the National Markings for all British military aircraft included a Yellow surround for roundels on camouflaged aircraft and introduced Red/White/Blue stripes on the fin.⁹⁰ National Markings of RAAF aircraft were then changed soon after declaration of war with Germany. On 12 SEP 1939, Directorate of Technical Services in RAAFHQ advised that for top surfaces and fuselage the roundel would be Red/Blue (i.e. what would become the "Marking M.1"), and roundels on undersides would be Red/White/Blue ("M.2").⁹¹ While this was formalised by the policy **Aircraft General Instruction (AGI) No.C.11 of 22 SEP 1939**, these 'M-series designators' were not applied until the **AGI C.11 of OCT 1940**.



Coloured from Ian Baker's AHCB #5, Roundels, Tail Stripes & Other Markings (2)



[RAAF]

1939 Changeover: A1-53 new type M.1 roundel, and A1-57 still with M.2 roundel, both with M.1 on wings

The RAAF "M.1" was the RAF type-B, the "M.2" was the standard red-white-blue type-A, and the "M.3" marking was the M.2 with a Yellow ring around the outside (like converting the RAF type-A to the type-A1). The fin flash was also designated by a number – the "M.4" marking was the red-white- blue fin flash. These Demons are marked with unit designator "Y" for 1FTS. The M.1 was in a 2:5 ratio⁹², M.2 1:3:5. But soon into 1940, the RAAF fuselage roundel was reverted from M.1 roundels back to M.2 roundels.⁹³

M.1 ROUNDELS 1939


RAAF CAMOUFLAGE AND MARKINGS

In past series of Beaufighters, Vengeances and Catalinas, the RAAF camouflage and marking details from 1939 have been covered, with the changes up to 1945,⁹⁴ often resulting from the origin of the aircraft. Below is a chronology of RAAF policy for generic, and Seagull V/Walrus specific markings (prewar all-over *Aluminium* Seagulls, and the *TSS*-camouflaged UK Walrus), so this can be followed in a logical timeline through to postwar.

Year	Change	Policy and References
1939	Introduction of the 2:5 type-B to RAAF aircraft fuselages and uppersurfaces – this became the M.1 roundel in	RAAFHQ DTS 9/1/442 of 12 SEP 1939.
	RAAF aircraft finishes, identification markings, and	RAAFHQ Aircraft General Instruction No. C.11, of 22 SEP 1939, 9/1/396(13A).
		Drawn largely from AMO A.154/39 of 27 APR 1939.95
	22 0 42	22
	A2-22 with M.3 roundel	1940
1940	<i>Camouflage Brown,</i> copies of RAF dark green and earth colours.	
	 OCT 1940. Policy AGI No. C.11 Issue 3 specified National Markings which applied directly to the Seagull: Marking M.1 – a Blue ring surrounding a red centre, the diameter of the Red to be 2/5 of the Blue circle, on upper wings (i.e. type-B roundel). Marking M.2 – a Blue ring surrounding a White ring surrounding a Red circle, the proportions to be 1:3:5 (type-A roundel). Marking M.3 – three colour circle (i.e. M.2) surrounded by a Yellow ring, proportions as for M.2 and the Yellow the same width as the Blue circle, i.e. 1:3:5:7 proportions (type-A1 roundel). Marking M.4 – Red, White and Blue stripes on the fin, stripes the same widths as the rings of the roundel, Blue nearest rudder (Seagull only). 	RAAFHQ Aircraft General Instruction No. C.11, Issue 3, of 3 OCT 1940, AFHQ file 1/501/329. Para2(i) stipulated grey serial number and code letters on camouflaged aircraft.
	NOV 1940. The RAF's Aircraft Design Memorandum (ADM) No.332 specified Air Diagrams for camouflage schemes for different types of service aircraft. The RAF <i>Temperate Land Scheme</i> (TLS), had been mandated by RAF AMO A.926 in DEC 1940 – upper surfaces in Ministry of Aircraft Production (MAP) <i>Dark Green</i> and <i>Dark Earth</i> , and undersides MAP <i>Sky</i> .	RAF ADM 332 (Issue 3) of 15 NOV 1940, External Colour Schemes of Aircraft, RAAFHQ file 150/4/852 AGI C.11, Standard Finishes and Markings. Air Diagram A.D.1174 "Camouflage Single-engined Biplanes – G/R, FAA" applied to the Seagull, which the RAAF adopted as A-1813. ⁹⁶ AMO A.926/40 of 12 DEC 1940 replaced A.154/39. ⁹⁷

1941	The RAAF adopted 1941 policy of the RAF Directorate of Technical Services (DTS) in DTS 368/41 , which also for the first time laid out the RAAF's standard overland camouflage scheme; specifying <i>Foliage Green</i> (K3/177, to replace RAF <i>Dark Green</i>), <i>Earth Brown</i> (K3/178 to replace RAF <i>Dark Earth</i>), and <i>Sky Blue</i> (K3/195 instead of RAF <i>Sky</i>). Already in 1941, Catalinas were being received in the RAF colours of <i>Temperate Sea Scheme</i> (TSS). This applied too to Walruses from RAF and RN ordes, and Beaufighters diverted from RAF Coastal Command in late 1942. The RAF <i>Temperate Sea Scheme</i> had been mandated by RAF <i>AMO</i> A.926 in DEC 1940 – upper surfaces in Ministry of Aircraft Production (MAP) <i>Dark Grey</i> (soon changed to <i>Dark Slate Grey</i>) and <i>Extra Dark Sea Grey</i> , undersides MAP <i>Sky</i> . However, <i>Sky Grey</i> probably used.	RAAFHQ DTS directive 368/41, file 150/4/852(53A) of 23 DEC 1941, signal SAS 9984, paras.2 and 4. signal SAS 9984, paras.2 and 4. RAF ADM 332 (Issue 3) of 15 NOV 1940, External Colour Schemes of Aircraft, AMO A.926/40 of 12 DEC 1940; and AMO A.30/41 of 9 JAN 1941.
1942	US colours: When US-produced aircraft began to arrive for the RAAF in 1942, these continued in British colours and markings being diverted from RAF contracts; US manufacturers tried to match their paint to the RAF colours. (Later, RAAF aircraft were delivered in USAAF standard camouflage of <i>Dark Olive Drab</i> and <i>Neutral Gray</i> , adopted for the Curtiss P-40 in 1940 and remaining the benchmark until late 1943 until natural metal.)	Matching US paints to MAP colours ⁹⁸ USAAC Spec 24114, Air Corps Bulletin No.41, of 22 OCT 1940. ⁹⁹
	JUN 1942. Deletion of Yellow from RAAF roundels.	RAAFHQ DTS 280/42 of 18 JUN 1942, filed on 1/501/329(63A); 1TG signal T.670 19 JUN 1942; Signal School Point Cook A.50, 29 JUN 1942.
	JUL 1942. RAF changes to TSS, DFS and Desert Scheme, and type-A1 roundel to type-C1 National Markings.	RAF AMO A.664/42 of 2 JUL 1942, para.5. ¹⁰⁰
	AUG 1942. The RAAF Technical Order, Aircraft General Instruction (AGI) No.C.11 was changed by Issue 4 of 31 AUG 1942, for operational aircraft retained Red/White/Blue National Markings, dropped the Yellow outer ring, but there were still unintended consequences. • Upper surfaces – Red was dropped, so the roundel was specified as Matt White and Matt Dull Blue, with the White diameter to be 2/5 of the Blue –the first directive for what we call the 'Pacific' Roundel. Red was deleted because on 26 JUN 1942 a USN fighter had attacked a RAAF Catalina confused by the M11 roundel Blue/Bed	RAAFHQ Technical Order AGI No.C.11 (issue 4) of 31 AUG 1942.
	 Catalina confused by the <i>M.1</i> roundel <i>Blue/Red</i> roundel. Fuselage sides – <i>Dull Red, White,</i> and <i>Dull Blue</i> roundels in the 1:3:5 proportions. Undersurfaces – the same <i>Dull Red, White,</i> and <i>Dull Blue</i> roundels but only for day fighters and trainers, but not for bombers or seaplanes. 	Colours were specified as <i>Matt Dull Red</i> K3/214 or K3/199, <i>Matt Dull Blue</i> K3/196 or K3/197.

	 Fin markings – all aircraft marked with <i>Dull Red,</i> <i>White</i> and <i>Dull Blue</i> stripes of the same width, with red leading. SEP 1942. On 19 SEP 1942 <i>Red</i> was dropped completely from National Markings – <i>Blue</i> and <i>White</i> roundel with <i>Blue</i> not to exceed 48", with the <i>White</i> diameter 3/5 (3:5) of the <i>Blue</i>. Roundels were to be in the six positions, with <i>Blue/White</i> fin stripes – specified colours <i>Matt White</i> K3/170 and <i>Matt Dull Blue</i> K3/197. The <i>Yellow</i> surround of the A1 fuselage roundel had been overpainted in AUG 1942 with camouflage paint. 	RAAFHQ message T520, file 0947/19 (30A), of 19 SEP 1942. USAAF War Dept Circular #141, 12 MAY 1942, had removed <i>Red</i> from the US National Markings. ¹⁰¹
1943	JAN 1943. RAAF squadron code letters – three letter codes introduced in <i>Sky Blue</i> K3/195, two letters signifying the squadron/unit, the third as an individual aircraft identifier.	Air Force Confidential Order (AFCO) A.3/43, Code Letters for Operational and Reserve Squadrons, of 4 JAN 1943, 62/1/271.
	1943 2nd Quarter. RAAF Blue/Grey camouflage. JUL/AUG 1943. Cease re-camouflaging US aircraft arriving in OD/NG – the standard RAAF camouflage colours up to 1943 were uppersurfaces <i>Earth Brown</i> and <i>Foliage Green</i> , undersides <i>Sky Blue</i> ; in DEC 1943 in line with 1940 US colours Spec 24114 (Air Corps Bulletin 41, 22 OCT 1940) this was changed to uppersurfaces <i>Green</i> , undersides <i>Grey</i> . ('Green' in this context refers to <i>Foliage Green</i> for Australian refurbishment, <i>Olive Drab</i> from US factories.) JUL 1943. Already some roundels were 1:2 ratio, from converting type-C1 roundels, and common for the Walrus. RAAFHQ AMEM specified that the roundel <i>White</i> circle was to be smaller, 2/5 the size of the <i>Blue</i> , the 2:5 roundel.	Request from HQ 5MG 300/3/1 of 20 JUL 1943, 1/501/329 (89A), to cease re-camouflage. RAAFHQ DTS Special Instr Gen/8 (SIG/8) 26 AUG 1943: Aircraft finished in American camouflage scheme are to be accepted and not to be re- camouflaged in RAAF scheme during erection. Aircraft will be finished in RAAF camouflage when repainting required or during major overhaul. RAAFHQ AMEM DTS 1/501/329 SAS 13552, 8 JUL 1943, adopted from RAF AMO A.664/42, of 2 JUL 1942. Further, in NOV 1943 SEAC specified the size of its new roundel (based on that of the RAAF) for 'medium' aircraft as approx. 2:5 32" (and fin flash 24" high x 22" wide) – Air Force Order (India) No.357. RAAF DTS specified 32" Blue roundel, 12" White, i.e. 3:8 (approx 2:5) and fin flash 24"x16". ¹⁰²
1944	APR 1944. RAAFHQ DTS advise of Night for "aircraft specially used on night flying operations, e.g. Blackcats ."	RAAFHQ DTS "Removal of Camouflage Paint from Aircraft", para.4, 1/501/329(156A), of c27 APR 1944.
	MAY 1944. Colour K3/318 <i>Dark Ocean Blue</i> seaplane discontinued.	RAAFHQ DTS signal QQ 457 of 2 MAY 1944, 1/501/329(162A).
	MAY 1944. "Catalinas for night reconnaissance roles to be camouflaged upper and lower surfaces colour <i>Night</i> ."	RAAFHQ DTS signal T 160 of 10 MAY 1944, file 62/4/93(33A).
	MAY 1944. Revision of AGI "Camouflage Schemes and Identification Markings": Appendix C <i>Foliage Green</i> (for ASR and the CUs – Walruses), and Appendix D <i>Night</i> , and RAAF Diagram A.5524 Sheets 1 to 4 applied. Code letter colours changed from <i>Sky Blue</i> to <i>Medium Sea Grey</i> .	RAAFHQ T.O. AGI Pt 3(c), Instruction 1, file 150/4/5056 (1A), of 26 MAY 1944. Also issued as DTS Special Instr Gen/34 1 MAY 44.
	JUN 1944. Painting flying boats below the chine – 1FBRD at Lake Boga queried AGI Pt 3(c), Appendix C of MAY 1944 that flying boats on day ops to have undersurface of hull,	RAAFHQ Message T.532/PGM to 1FBRD of 13 JUN 1944, file 62/4/93(43A). ¹⁰³ This 'unpainting' was cancelled by AGI Amendment

	below the chine, unpainted.	List (A/L) 61 of 24 MAR 1945, file 140/4/5056.	
	OCT 1944. RAF camouflage Scheme and Marking changes.	RAF Air Publication A.P.2656A of OCT 1944. ¹⁰⁴	
	ZAOW		
1945	The MAY 1944 AGI introduced overall <i>Foliage Green</i> to APR 1945. RAAF squadron code letters, more added to the list of AFCO A.3/43.	AFCO A.11/45, Code Letters for Operational and Reserve Squadrons, of 26 APR 1945, 62/1/271.	
	APR 1945. No removal of camouflage from transport aircraft.	RAAF Command letter 2198 of 27 APR 1945, 1/501/329 (21A).	
	OCT 1945. Enquiries were made, as camouflage was being removed from RAAF transport aircraft, could Foliage Green be removed from the ASR Catalinas.	From 4 (Maint) Gp to RAAFHQ 4MG file 301/15/1 (61A) of 10 OCT 1945, filed as RAAFHQ 1/501/329 Pt.2 (30A).	
	Approval granted 18 OCT 1945 that camouflage be removed from Catalinas during major overhaul. In the interim, Catalinas could remain in delivery scheme: "undersurface <i>White</i> , uppersurface <i>Blue Grey</i> ", i.e. still the Coastal Command colours of <i>White</i> with TSS uppersurface camouflage of <i>EDSG</i> ["blue"] and <i>Dark Slate</i> <i>Grey</i> ["grey"].	AMEM 1/501/329 Pt.2 (31A) 18 OCT 1945.	
	NOV 1945. Review of aircraft camouflage policy for postwar aircraft: AGI should be amended to revert to pre-war practice of aircraft being uncamouflaged.	message T.1219 PGM, TSD 443/45, 62/4/93 (51A). Inter alia, for post-war aircraft undergoing complete overhaul to have camouflage removed; aircraft undergoing repair requiring repaint, to have camouflage removed; other aircraft to have camouflage removed when manpower and materials permit.	
1946	SEP 1946. RAAFHQ D/Ops reviewing AGI of 26 MAY 1944.	RAAFHQ 1/501/329 Pt.2 M.34 of 3 SEP 1946. Also recommended that domestic aircraft production be delivered uncamouflaged.	
1947	MAY 1947. DTS issue of SIG/88 cancelling the marking of VH-series radio callsigns.	RAAFHQ DTS SIG/88 of 1 MAY 1947. Filed as message T.1650 PGM, TSD 23/47, 1/501/329 Pt.2 (35A).	
	MAY 1947. RAF re-introduce <i>Red</i> to National Markings.	RAF Air Ministry Order (AMO) A.413/47 para 18, of 15 MAY 1947.	
	AUG 1947. RAAFHQ assessed that "Red in roundels is not a requirement".	RAAFHQ 9/1/1595 Aircraft Markings – General Technical File 1945-1950, M.12 of 4 AUG 1947.	
	AUG 1947. Squadron code markings no longer required.	RAAFHQ DTS SIG/92 of 5 AUG 1947. Filed as message T.1740 PGM, 1/501/329 Pt.2(46A).	
	SEP 1947. RAAF flying boats "to be painted with <i>Aluminium</i> and with the smoothest possible finish".	RAAFHQ 9/1/1595 Aircraft Markings – General Technical File 1945-1950, duplicated from 9/1/1755(5A) of 30 SEP 1947.	
1948	JAN 1948. Red/White/Blue National Markings 1:2:3 introduced to RAAF in 'bright' colours, known as type-D.	RAAFHQ DTS SIG/96 of 14 JAN 1948. Filed as message T.1840 PGM, 9/1/1595. Reintroduction of <i>Red</i> to RAAF National Markings, para D(8); colours of flying boats enamel matt <i>Medium Sea Grey</i> hull, <i>Aluminium</i> above the waterline, para D(4).	

RAAF CAMOUFLAGE

As war arrived, colours changes were being promulgated for the Seagull. First, roundels were toned-down to *Red/Blue* at the end of 1939, and camouflage replaced the *Aluminium* – introduced by the **AGI No. C.11 of 22 SEP 1939** (the first RAAF policy on markings) specifying the Seagull was to be in "Scheme 3", later specified as Diagram A.D.1174 which became A-1813.¹⁰⁵ This also specified the use of *Red/Blue* roundels and assigned single code letters to designated units. Over late 1939 and early 1940, the RAAF had queried the RAN on the requirement of camouflage, to which Navy replied on 6 FEB 1940 that the RN Fleet Air Arm camouflage scheme should be adopted.¹⁰⁶ **By mid-1940** aircraft had been painted: L2171 (HMAS *Hobart*) in MAR 1940 was "camouflaged iaw Admiralty Instructions",¹⁰⁷ so was A2-4 on 6 JUL 1940¹⁰⁸ immediately prior to embarking (HMAS *Perth*). Across the whole RAAF, **by JUL 1940** camouflage had been applied and was being confirmed by RAAFHQ – 11SQN at Port Moresby on 11 JUL (based there with three Empires and two Seagulls) responded to RAAFHQ regarding a query on camouflage progress that both its Seagulls remained uncamouflaged,¹⁰⁹ similarly RAAF Darwin responded that same day that all Hudsons were camouflaged.¹¹⁰

Where the RAAF did depart from RAF policy was with undersurface colours – the RAF used *Sky*, or "duck-egg blue" for the European haze, but *Sky Blue* was adopted here, as the richer blue was required for the Australian clearer and brighter atmosphere. The **1940** colours laid down by RAAF HQ for these "seacraft" were: *Dark Slate Grey* (K3/189) and *Extra Dark Sea Grey* (K3/187) for uppersurfaces, and *Sky Blue* (K3/195) for undersurfaces. Again, *Red* and *Blue* identification colours were required, in *dull* colours.¹¹¹ These new colours closely followed the RAF policy.



1940 camouflage colours for the RAAF Seagull, IAW RAAFHQ 1/501/329

While the standard British wartime camouflage for the Walrus, both RAF and RN, was *Temperate Sea Scheme* (*TSS*) comprising upper surfaces of disruptive *Extra Dark Sea Grey* (*EDSG*) and *Dark Slate Grey*, and undersurfaces of *Sky Type S*, this became more complex for the Walrus when the Air Diagram A.D.1174 "Single Engine Biplane (*General Reconnaissance – FAA*)¹¹² referred to "*shaded*" and "*unshaded*" areas. This was an added complexity of a four-colour scheme that extended to "shadow compensating", or "counter-shading" – introduced in early 1939 (the policy is sparse),¹¹³ but soon discontinued thereafter by the RAF. Evident in the below 1943 image of an RN Walrus is that the lower "*Dark Sea Grey*" had particularly faded to a much lighter grey.



[du Plessis Collection]

RN Fleet Air Arm (FAA) Walrus in Tunisia 1943 still in four-colour "counter-shading" camouflage

The Confusion of Shadow Compensating

The four-colour 1939 "shadow compensating" scheme required that "shaded areas" (lower fuselage side surfaces, and the top of the lower mainplane, in shadow) to have lighter colours – so that shaded areas appeared the same colour as unshaded areas. The lighter colours for the shaded areas were *Dark Sea Grey* and *Light Slate Grey*. Although not specified in the surviving intervening policy over 1940-1942, this scheme had indeed still been in British FAA service in 1943-1944.¹¹⁴ British AMO A.926/40 of DEC 1940 confusingly stated (with no reference to shading paints) that: "The upper surfaces of the lower wings and the floats of biplanes and floatplanes are to be treated as upper surfaces".¹¹⁵ *Shadow Compensation* was abandoned by the RAF early in the war with lower wings being treated as upper surfaces from DEC 1940, although it appears to have persisted in the FAA until the end.¹¹⁶ While this shadowing scheme was probably applied occasionally by the RAAF iaw tech Diagrams, it would have carried by most FAA exchanged aircraft, but not by the RAF aircraft that were bought by the RAAF. To add to any confusion, from 1939, A-pattern and "mirrored" B-pattern camouflage was sometimes used.¹¹⁷

1939-1942 Seagull/Walrus Shadow Compensation Camouflage, the lighter colours for shaded areas in shadow

Four-colour shadow camouflage would have been the delivery *TSS* scheme for some Walruses, but if aircraft had been worn and faded then the shades of colour were very subtle. Furthermore, its complexity meant that in Australian repair facilities for repainting was probably rarely applied, and the two-colour scheme became standard. Markings historian Ian Baker has assessed that the four-colour scheme was applied in Australia – Seagull V A2-19 being an example¹¹⁸ – but after being abandoned by the RAF over 1940-41, its re-application by for RAAF repairs and repaints in the field would not have continued.



[[]colour image from du Plessis Collection]

RAF Walrus W2757, ZE-O 293SQN, 1944 – no counter-shading, which by then was only continued with the FAA

The next formal RAAF policy on aircraft markings that survives was **AGI No. C.11 Issue 3 of 3 OCT 1940**¹¹⁹ still based upon the RAF policy AMO A.154/39 of APR 1939. This RAAF policy abbreviated seaplane camouflage (for the Seagull, Sunderland and Empire) as scheme "*S.3 – Seacraft Camouflage Scheme*". The next policy was **AGI No. C.11 Issue 4 of 31 AUG 1942**,¹²⁰ which now referenced the revised RAF AMO A.513/41 (10 JUL 1941) and described *TSS* as "two-colour" DSG/EDSG. Now the RAAF spelt out in para.2 of this policy as "all seaplanes are to be camouflaged using *Dark Slate Grey* (K3/189) and *Extra Dark Sea Grey* (K3/187) on the upper surfaces", with *Sky Blue* (K3/195) undersurfaces. It can be safe to say that use of the *four-colour TSS* was not widespread, and was not in service for long – probably only to the extent of 1940 until 1942.

It may have been policy to only apply the four-colour scheme to Walruses on loan from the FAA (but not those on loan or purchase from the RAF), but such instructions may have not been necessarily followed. How long the four-colour camouflage was extant in the RAAF for the Seagull/Walrus is not known exactly, but probably was only used inconsistently by the RAAF over FEB 1940 to AUG 1942, as analysed by this data:

- Naval Board letter of FEB 1940 agreeing to camouflage of Seagulls to conform with the Royal Navy FAA;¹²¹
- Drawing A-1813 was added to AGI C.11 in FEB 1940;¹²²
- a MAY 1940 RAAFHQ summary of camouflage, possibly in preparation of the AGI C.11 Issue 2 refers to 27
 FEB 1940 "amendment to AGI C.11 to include Seagull camouflage";¹²³
- an undated letter S.A.S 2699 from RAAFHQ to Area HQs c mid-1940 specifying camouflage colours *Extra Dark Sea Grey* and *Dark Slate Grey* for upper surfaces, *Sky Blue* for under surfaces no mention of lighter shades;¹²⁴
- there is no reference of colours in the text of AGI C.11 Issue 3 of **OCT 1940**, only by the S.3 Seacraft Camouflage Scheme's Drawing A-1813 the drawing detailing this colouring and demarcation;
- the lighter paints had been introduced to the RAAF's colour vocabulary K3/190 Light Slate Grey and K3/188 Dark Sea Grey and not the 'Extra' EDSG, their only conceivable purpose being for 'shaded TSS';
- in Britain, in **JUL 1941** A.513/41 of 10 JUL 1941 stated *TSS* for amphibians to be two-colour, *Dark Slate Grey* and *EDSG*;¹²⁵
- AGI C.11 Issue 4, **AUG 1942** (based upon RAF AMO A.513/41), specifies seaplane camouflage as *EDSG* and *Dark Slate Grey* uppersurfaces, *Sky Blue* for undersurfaces no mention of requirement for lighter shades;¹²⁶
- in **AUG 1942** RAAFHQ DTS amended the technical Air Diagrams **changing** "*Light Slate Grey* to become *Dark Slate Grey* (K3/189)", and "*Dark Sea Grey* to become *EDSG* (K3/187)" thereby cancelling 'shading' colours.¹²⁷

The reasons for this discontinuation are self-evident: additional effort was required in production (for RAF or FAA), in its application and maintenance, its usefulness was questionable, paints faded in the tropics and the lighter colours probably more so than the darker shades, and these extra paints had to be kept in inventory for nugatory purpose.

RAAF Camouflage Introduction – SEP 1939

The 1939 RAAF AGI C.11 policy listed aircraft standard finishes as **(a) Training Types** (Aluminium V.84), **(b) Service Types** (camouflage scheme No.1 and No.2), and **(c) Service Types – Seaplanes** (in camouflage scheme No.3). The specifics of camouflage colours and patterns were contained in the associated Diagram Drawings – for example the Demon drawing A-1732, Anson A-1733, and the Seagull A-1813. Camouflage colours for aircraft received from UK were *Temperate Land Scheme (TLS)*, and for the Walrus were *Temperate Sea Scheme (TSS)* – detailed in previous articles. For Australian conditions, by NOV 1939 the RAAF was developing unique shades, typically richer colours.¹²⁸



[colourised from AHCB 67 cover ¹²⁹]

Demons A1-59 and A1-30 of 3SQN at Richmond, with 1939 camouflage and M.1 toned-down roundels

RAAF Unique Camouflage Colours – DEC 1941

These 3SQN Demons (above) of late 1939 show the emergency RAAF green/brown camouflage. By APR 1940 3SQN requested approval to dispense with camouflaging the Demons as they would soon be allotted for training.¹³⁰ The camouflage colours of this time were still the RAF colours of *Dark Green* (RAF 33B/202, RAAF stores K3/216) and *Dark Earth* (33B/199, K3/209). In the RAF – which with the RN used a Ministry of Aircraft Production (MAP) standard – introduced the *Temperate Land Scheme (TLS)* in 1940 by AMO A.926; and for maritime-employed aircraft the scheme was *TSS*.¹³¹ From DEC 1941, these RAF colours were replaced by Australian unique colours *Foliage Green* (K3/177) and *Earth Brown* (K3/178), with undersurfaces *Sky Blue* (K3/195).¹³²



With both the MAP *TLS* and *TSS* schemes, the difficulty is interpreting these colours from monochrome imagery. For example with *TSS*, with freshly applied paint *EDSG* in reality is typically the darker colour but, because of its blue component, it could often appear lighter on certain films and filters. The way the colours are identified is typically extrapolated from the known patterns on surviving technical diagrams.





[Warbirds Research Group]

An RN Fleet Air Arm Walrus – in standard TSS and British theatre markings in India c1945, with interesting GSE

TSS Camouflage – War Colours of the Seagull V 1940 A2-19

In FEB 1940 the RAAF and RAN agreed to camouflage the Seagull V in the same scheme as the British Air Ministry and Admiralty.¹³³ From the RAAF OCT 1940 policy: "The Seagull V was the only RAAF type permitted to carry *red, white* and *blue* fin flashes and one of only two types allowed a *yellow* surrounding ring" to the fuselage roundel.¹³⁴ This image of A2-19 clearly shows the 'counter-shading' of 1940 Air Diagram A.D.1174 "Single Engine Biplane (General Reconnaissance – FAA)¹³⁵ referred to "shaded" and "unshaded" areas – with the four shades of grey!



[Pentland I, p.30]

9SQN A2-19 (as was A2-4 also) in *TSS four-colour* shadowing (or counter-shading), discernible here, was apparently not widespread and lasted only to 1942. **1940 AGI C.11 Issue 3** specified a "S.3" seaplane camouflage scheme; National Markings were type-A1 roundel (named by the RAAF in 1940 as the "M.3 roundel") on the fuselage, type-A (named as the "M.2") on the wings; a *red-white-blue* fin flash (unique to the Seagull, and named the "M.4" marking). The fin flash had unusual (thin and high) dimensions. The "J" was the 9SQN unit code, introduced by the 1939 AGI policy. Later **A2-19** was with **No.1 Rescue & Comms SQN and lost in SEP 1943** in New Guinea searching for the downed crew of 30SQN Beaufighter A19-142.¹³⁶



The subtlety of *counter-shading*

The SEP 1939 AGI C.11 allocated squadron code letters, here 'J' for 9SQN: code letters were to have been 48" in a 6" stroke (*if practical*) and marked in *Grey* – but here marked in *Black* 36" high in a 5" stroke. Underwing roundel still appears 60" diameter. The earlier underwing serials (probably about 30" high) were soon deleted. Colour reference AHCB #69 p.7. Roundel is marked further forward than on the previous *Aluminium*-finished aircraft.



TSS Camouflage – War Colours of the Seagull V 1942 A2-12

In FEB 1940 the RAAF and RAN agreed to camouflage the Seagull V in the same scheme as the British Air Ministry (RAF) and Admiralty (FAA).¹³⁷ The Seagull V was the only RAAF type permitted to carry *red, white* and *blue* fin flashes and one of only two with a *Yellow* fuselage outer roundel ring, by the OCT 1940 AGI. Here A2-12 on 6 JAN 1942 is towed ashore at Rathmines after a fire burnt out the mainplane, tailplane and rudder – the fire occurred on take-off after the petrol cap came loose and fuel splashed onto the engine, and was repaired by 9SQN within days.



[AWM P00041.027]

A2-12 of Seaplane Training FLT (STF), shows a darker *TSS* scheme than on A2-19, recently from extended servicing at 2AD, probably explaining its fresh finish. No 'counter-shading' – this apparently now discontinued. The larger 36" high nose '12' in 5" stroke, M.3 fuselage roundel in same position as A2-19, and both these aircraft have serials marked in *Black*, not *Grey*.



A2-12 M.3 roundel, unique Seagull M.4 fin flash, '12' repeated on the nose, no 'counter-shading'

The M.3 (type-A1) fuselage roundel standard 35" *Yellow* diameter. Fin flash probably the tall 36"x15" narrow three-colour M.4 – *Red* was eliminated completely from National Markings in SEP 1942. Nose numbers had generally been discontinued in 1939-1940 (presumably for security) but retained by STF training aircraft in lieu of unit code – STF became 3OTU in DEC 1942.



Temperate Sea Scheme late 1942 – Walrus X9520 starboard side



[RAAF]

RAAF Walrus Mk.I X9520, apparently on assembly at Point Cook in NOV 1942

From a batch of 100 built by Saunders-Roe (Saro) for the Royal Navy with 43 transferred to the RAF; of the 100 total, 35 were finished as the Walrus Mk.II.¹³⁸ From this batch, seven Mk.Is (X9510, X9513 to X9517, and X9520) were bought by the RAAF from the RAF and assembled at Point Cook over OCT/NOV 1942.



X9520 in TSS modified A-pattern camouflage – very faded, particularly the EDSG

EDSG was reknowned for it ability to fade, but also its *Blue* component would normally appear lighter on panchromatic film, and certain filters. Here too, the unusual size of the National Markings is of interest: RAAF 3:5 roundels have been applied in six positions, with a small 18" fuselage roundel (possibly an overpaint of a 18" RAF type-C1), with 36" underwing roundels; the wide fin flash was 24" high x 32" wide (16" per colour). With *Red* only recently discontinued from markings in SEP 1942, there was yet to be an establised fin flash standard. The serial in *Black* is of interest too – although RAAF-owned, no A2- number serials were allocated, with all Walruses keeping the British serials (as, of course, did the EATS trainer deliveries). X9520 was operated by 9SQN (as YQ-F) and then 6CF/CU, before written-off by a wheels-up forced landing in APR 1944.

SEAGULL / WALRUS MARKINGS – SQUADRON CODES

Air Force Confidential Order A.3/43 in JAN 1943

From 1943 each of the operational RAAF Seagull/Walrus units carried two-letter unit codes, and a singleletter aircraft identity. But these could be marked in different ways, and even in these few units they were. RAAF DTS policy had allocated the two-letter codes by AFCO A.3/43 in JAN 1943, and unlike the delay to apply the codes to airframes of some units stationed in the north, Seagull/Walrus codes appear to have been marked from the first half of 1943. Several paragraphs of this order read:

2. The code for operational squadrons will take the form of two letters of the alphabet chosen by Air Force Headquarters to indicate the squadron, there being no sequence in the choice of the letters. Each aircraft in the squadron will also be identified by a single letter of the alphabet to be chosen by the squadron commander. Thus, No 14 Squadron has been allocated the code letters "PN". Aircraft in No 14 Squadron will therefore be marked -

PN -	А	or	A –	PN
PN -	В	or	в –	PN
PN -	D	or	D —	PN

and so on. THE LETTERS "C" AND "I" WILL NOT BE USED.

NOTE: The dash in between the letters indicates the fuselage roundel.

Such markings will be applicable to operational, transport, rescue and communication, and communication flight aircraft.

6. Normally code letters are to be placed, showing the squadron code letters immediately forward of the fuselage roundel with the single individual aircraft distinguishing letter immediately aft the roundel.

There may be cases, however, where there is insufficient room on certain aircraft for the two squadron code letters to be placed forward of the roundel, and in this case it is permissible to transpose the position of the letters...

8. Details of application, size and position of these letters is shown in Air Diagram 2001 already issued to units to which reference is to be made. Briefly summarised, each code letter is to be a maximum of 48" high, 24" across and strokes forming the letter are to be 6" wide. There is to be a space of 6" between each letter. These sizes to be correspondingly reduced if there is insufficient space on the fuselage. In all cases, however, the letters are to be the same height as the diameter of the fuselage roundel and the whole shall form a horizontal line of letters when the aircraft is in the flying position.

9. The colour of the code letters is to be Dope Camouflage Sky Blue, Ident No K3/195 for all aircraft.

10. It is to be the responsibility of the squadron receiving the aircraft to apply the relevant code letters as soon as possible after receipt of the aircraft.

Air General Instruction Part 3 Section (c), Instruction 1 in MAY 1944

From MAY 1944, AGI 3(c)1 completely revised RAAF aircraft camouflage and markings. For attack, transport, communication and ASR aircraft, the relevant 'Appendix C' scheme introduced overall *Foliage Green*. The amphibian capability of the Seagull/Walrus was useful in the rescue mission carried out by the Communications Units (CUs), which was taken over at the end of 1944 by the Air-Sea Rescue (ASR) Flights. The CUs and ASR aircraft had camouflage changed from *TSS* to overall *Foliage Green* (K3/177), and each of the operational RAAF Seagull/Walrus units carried two-letter unit codes, with a single-letter individual aircraft code, changed to *Medium Sea Grey* (K3/195). Several paragraphs of Appendix C of this order read:

```
Scheme:
(i) Surfaces: Including fabric surfaces.
Upper - Foliage Green.
*Lower - Foliage Green
(iv) Identification Markings: Colour - Medium Sea Grey.
Refer RAAF Diagram A.5524, Sheets 1 to 3
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'Identification Markings' included the standard aircraft serial number (in 8" x 5" characters) and the new unit codes, in a variety of sizes. In general, for the Seagull/Walrus, code letters were approximately the same height as the fuselage roundel, and tended to be aligned with the top of that roundel. However, sometimes serial numbers were applied in *Black*, and as unit code letters often faded to an off-white, sometimes they were painted in *White*.

9 SQUADRON

From 1925, RAAF seaplanes were operated by 101 (Fleet-Cooperation) FLT, shore-based at Point Cook and embarked on RAN vessels. In APR 1936 101 FLT became 5 (Fleet-Coop) SQN at Richmond, then became 9 (Fleet-Coop) SQN in JAN 1939 at Rathmines.¹³⁹ Over 1929 to 1933, 101FLT's Seagull IIIs had been embarked on the seaplane carrier HMAS *Albatross* which would give birth to 9SQN's badge of an albatross and naval crown.¹⁴⁰ As the elderly Seagull III was retired, the metal-hulled Seagull V assisted the RAN with its dual requirements of supporting the British Imperial defence and protecting Australia's maritime trade. 9SQN detachments were maintained on RAN cruisers, which became invariably integrated into RN cruiser squadrons, leading to swapping of aircraft between vessels, with the RAF Walrus coming onto RAAF strength.

The strategic reach of the RAN and 9SQN's Seagull/Walrus fleet would see action, and losses, in many theatres over the early war years:

- In JUN 1939, the 9SQN's Walrus **A2-21** from HMAS *Hobart* attacked Italian positions in Ethiopia;
- At the outbreak of war with Germany, HMAS Sydney joined an RN cruiser squadron in MAY 1940, and joined the bombardment of the Italian port of Bardia, Cyrenaica, and A2-21 was damaged by RAF fighters on 21 JUN 1940; Sydney then supported the attack on Scarpanto with Walrus K8542 in SEP 1940 (Sydney returned home to be lost in an action with L2177 on 19 NOV 1941 against the German raider Kormoran);
- HMAS Australia joined an RN cruiser squadron at Scapa Flow in 1940 with a 9SQN Seagull detachment, which was administratively incorporated into the RN Home Fleet's 700SQN its Seagull A2-24 was replaced by Walrus L2247, which on 25 SEP 1940 supporting Australia's involvement in the action at Dakar to neutralise French Vichy forces, was shot down by enemy fighters, with the loss of crew;
- HMAS *Perth* had replaced *Sydney* in the Mediterranean, and on operations around Crete in APR 1941, its Seagull **A2-17** was shot down by a pair of Ju-88s, with the crew ditching to be rescued by a destroyer;
- Nearer to home, 9SQN detachments were heavily involved with RAN operations in the Pacific and Indian Oceans to counter the Japanese advance on 27 FEB 1942, HMAS *Perth* with **L2319** was sunk in the Sunda Straits, with the 9SQN personnel killed or captured by the Japanese;
- While operating in support of the Guadalcanal landing in AUG 1942, HMAS *Canberra* with **P5717** was badly damaged by a Japanese attack and eventually sunk.



Walrus Mk.I L2319 being hoisted aboard HMAS Perth in Sydney in DEC 1941

Losses of RAN cruisers, and modification of others, eliminated the need for 9SQN embarked detachments in the latter part of the War. In JAN 1943, 9SQN moved to its new base at Bowen, coinciding with the last of its embarked Flights being withdrawn. Over early 1943 W2755, X9513, and Z1804 all served on HMAS *Australia*, until the last (HD812) was taken off *Australia* at Momote (Los Negros) in MAY 1943, and returned to Bowen. In AUG 1943 A2-6 forced-landed on the water with engine problems, and the aircraft was sunk by gunfire from HMAS *Swan*.

By 1943, the Seagull/Walrus catapult aircraft had been superseded by radar and – as the space on board could be put to better use for better anti-aircraft armament plus the removal of several hundred gallons of highly volatile aviation fuel – the ships' crews were not sorry to see them go.¹⁴¹

While 9SQN's main roles from Bowen now were shore-based anti-submarine patrols and searches, the Walrus was required for ASR detachments in New Guinea supporting the Allied push north. In JAN 1944, the Allied amphibious landing had taken Saidor on the northern New Guinea coast, required as a stepping stone towards Madang and enable attacks on Wewak and Hollandia; Saidor and Hollandia became bases for ASR detachments. With little activity at Bowen, in AUG 1944 only one Walrus was available on immediate standby. Perhaps boredom was setting in when a 'shortest take-off event' was conducted by 9SQN in SEP against a Vengeance: "The Walrus got off in approx 70 yards, whilst the Vultee took approx 200 yards." ¹⁴² It was inevitable the days of the Walrus were numbered and in DEC 1944, 9SQN moved from Bowen back to Rathmines – its last two aircraft L2322 and HD812 were handed over to 3OTU.

9SQN Code	Serial	Details and Name	9SQN Code	Serial	Details and Name
YQ-A	X9514		YQ-N		
YQ-B	A2-13		YQ-0	A2-3	
YQ-C		not used	YQ-P	A2-4	
YQ-D	W2705		YQ-Q	W2783	
YQ-E	P5664	HD860	YQ-R	X9510	
YQ-F	X9520		YQ-S	X9513	
YQ-G	L2322	to YQ-L	YQ-T	X9517	
YQ-H	W2755		YQ-U	Z1804	
YQ-I		not used	YQ-V		
YQ-J	A2-6	HD812	YQ-W		
YQ-K	HD818		YQ-X		
YQ-L	HD874	L2322; HD874	YQ-Y		
YQ-M			YQ-Z	A35-2	Dolphin

9 Squadron Codes – from MAR 1943

References for known 9SQN codes: wartime signals NEA 7/143/AIR(6A) and (58A), *adf-serials* A24 database, imagery. Codes were separated by the roundel, and would always read in the normal sense, individual letters "C" and "I" were not used.



[RAAF]

W2755 served with 9SQN from JUL 1942 until JUL 1943 as YQ-H

W2755 was in a batch of seven Walrus Is purchased by the RAAF, and in MAY 1942 was assembled by QANTAS, at Rose Bay. It embarked on HMAS *Manoora* briefly in JUL 1942 until damaged by fire, and was on strength with 9SQN at Rathmines by OCT. In JAN 1943 W2755 moved with the 9SQN transfer to Bowen, then embarked aboard HMAS *Australia* to replace X9520. Damaged on the catapult in APR 1943 and replaced by X9513, by JUL 1943 it was still listed on 9SQN signals as YQ-H. In JAN 1944, W2755 was overhauled by QANTAS over that whole year, and then from APR 1945 was with 6CU (possibly coded XJ-B).¹⁴³

9 SQUADRON – WALRUS Mk.I HD860 QY-E 1944

9SQN **HD860 YQ-E** at Saidor in JUL 1944, in **TSS camouflage** before the Overall *Foliage Green* K3/177 (as per MAY 1944 policy AGI) was mandated for ASR and Comms aircraft. The different tones of TSS *Extra Dark Sea Grey* and *Dark Slate Grey* can be discerned in this image. (P5664 had previously been YQ-E, until being damaged taking-off in rough water in APR 1943, and after lengthy overhaul by QANTAS was issued to 8CU in JUL 1944.)



HD860 YQ-E in TSS camouflage at Saidor, northern New Guinea, in JUL 1944 off HMAS Warrego Previously aboard HMAS Australia, HD860 was with 9SQN from APR 1944, serving until its QANTAS overhaul in NOV 1944





Fuselage 1:2 roundel diameter 24" (0.61m)

When 'Pacific' roundels were applied to the later delivery aircraft (HD860 received in JUN 1943), these roundel ratios often determined by overpainting the previous type-C1, so the 1:2 roundel was typically 24" *Blue* diameter, making the *White* diameter 12". This fin flash was taller, 30" x 24"; underwing roundel was now smaller, approximately 36" diameter.

Fin flash: 30" high x 24" wide (12" each colour) Code Letters: 24" high, 15" wide, 4" stroke (thicker then normal) in *White* Serial Number: 8" x 5" in *Black*

9 SQUADRON – WALRUS Mk.I HD812 YQ-J 1944

HD812 YQ-J of 9SQN at TVL over APR- MAY 1944, the different tones of *TSS Extra Dark Sea Grey* and *Dark Slate Grey* can be discerned in these images – and before implementation of the overall *Foliage Green* of the MAY 1944 AGI policy for ASR and Comms aircraft.



[RAAF]

9SQN HD812 YQ-J in TSS camouflage at Townsville APR-MAY 1944



[AMOF]





Fuselage 1:2 roundel diameter 24" (0.61m)

When Pacific roundels were applied to *TSS* camouflaged aircraft, the previous 3:5 roundel was typically 25" diameter, but the newer 1:2 was 24" being adapted from type-C1 roundel. Underwing roundel the smaller 36" diameter. The fin flash was taller, 30" x 24".

Fin flash: 30" high x 24" wide (12" each colour) Code Letters: 24" high, 15" wide, 4" stroke in *White* Serial Number: 8" x 5", probably in *Black*

COMMUNICATIONS UNITS

The Communications Flights (CF) were formed initially to provide passenger and VIP services between the capital cities. The earliest Flights formed in Melbourne and Sydney flew a menagerie of Impressed light aircraft, and will not be dwelled upon here – perhaps a subject for someone to explore? Tasks increased from normal travel flights to cargo lifting, medical evacuation, ferrying aircraft to units, and calibration duties. In OCT 1943 all the CFs were renamed as Comms Units (CU), although often it could take a month for the change to be implemented. The CUs took on a variety of even more diverse roles, such as the task of target-towing with Vengeances for the firing training of all the services. In MAR 1945, some CUs were renamed (or subsequently formed) as Local Air Supply Units (LASU) and operated larger and more robust transports – these to undertake the local air supply to ground operations in forward areas. But for this story of the Walrus, the three operators were 5CF/CU, 6CF/CU and 1RCS/8CU.

The very early light aircraft of 1940-1942 such Fox Moth, Moth Minor, Fairchild and Miles types were replaced by more substantial training types such as the Battle, Oxford and Anson. From 1943, the rugged Norseman and Ventura made ideal platforms for the diverse roles of the CUs, and soon Beauforts and the specialised Beaufreighters became available for the LASUs. More to the relevance of our story, the Walrus provided an embryo ASR capability from 1943 before the Catalina became available. (From late 1944, the RAAF formed dedicated ASR Flights with the Catalina.) Their job done, most of these Units closed in 1946. **5CF** formed on 1 DEC 1942 at Garbutt (Townsville) for transport and comms duties with Dragons, Tiger Moths and a Walrus to support North-Eastern Area (NEA). The first Walrus was X9515/KF-A, replaced in JUL 1943 by W2705, with the Flight being renamed 5CU on 29 OCT 1943.



DJ447 KF-L was a long-serving Anson with 5CF/5CU from DEC 1942 to NOV 1945 [adf-serials]

Unit	Code	Formation	Details	Disbandment
1CU	EV	1 NOV 1939 at Laverton	Moved to Essendon 1943, one role became Dragon	30 JUL 1948
			COnversions for RAAF units, back to Laverton 1946	
2CU	JU	2 DEC 1940 at Mascot	Ferrying aircraft a major role, moved to Wagga 1942	31 JUL 1944
3CU	DB	20 JUN 1942 at Mascot	Replaced 2CF as the Sydney-based unit, detachments at	28 FEB 1946
			Camden and Nowra during 1944	
4CU	VM	7 SEP 1942 at Archerfield	Anson, Hudson, Lodestar, Vengeance	16 APR 1946
5CU	KF	1 DEC 1942 at Townsville	Anson, Dragon, Tiger Moth, Vengeance, Walrus for ASR	9 MAR 1946
6CU	XJ	8 DEC 1942 at Manbulloo NT	Anson, Dragon for supply remote bases and medevac, FEB	30 DEC 1945
			1943 Batchelor, Walrus ASR, to Darwin OCT 1945	
7CU	YB	10 NOV 1943 at Pearce Dragon, Anson, Vengeance, to Guildford NOV 1944		31 MAY 1946
8CU	ZA	4 NOV 1943 at Goodenough	Formed from 1 Rescue and Comms SQN (1RCS), Walrus,	4 MAR 1946
			Catalina for ASR, det at Momote 1944, Madang 1944	
9LASU	ТΧ	4 NOV 1943 at Port	Formed from 1RCS/Det as 9CU, Dragon and Anson,	10 MAY 1946
		Moresby	changed to 9LASU at Lae MAR 1945, to Morotai, Labuan	
10LASU	UB	11 SEP 1944 at Cairns	Formed at 10 CU moved to Bougainville DEC 1944,	24 FEB 1946
			changed to 10LASU MAR 1945 – Anson, Beaufort	
11CU	HM	13 MAR 1945 at Morotai Ventura, Beaufort with det in Manila APR 1945		MAR 1946
12LASU	TA	18 APR 1945 at Tadji	Anson, Beaufort, Tiger Moth, JAN 1946 to Finschhafen	11 MAR 1946
13CU	-	17 JUL 1945 at Kingaroy	No aircraft issued	23 OCT 1945

RAAF Communications Units¹⁴⁴

6CF was formed at Manbulloo, near Katherine, in DEC 1942 under FLTLT 'Doc' Fenton to support North-Western Area (NWA). Normal transport duties - ferrying of passengers, freight and mail to remote units based throughout NWA – were in addition to conducting ASR, calibration duties, and Army and Navy cooperation with towing drogues for anti-aircraft gunners. 6CF also conducted medical evacuations of civilian and military personnel to hospitals or medical centres, and moved from Manbulloo to Batchelor in FEB 1943, becoming 6CU later that year.



[Pentland Vol ,1 p.129]

[Pentland Vol 1, p.100]

Early mainstays of the Comms FLTs - Dragons A34-56 of 6CU NOV 1943 (left) and A34-84 KF-Q of 5CU, 1943

8CU became the furthest based Walrus unit when in NOV 1943, No 1 Rescue & Communication SQN, based at Goodenough Island, was renamed 8CU for transport and courier runs between Papua, New Guinea and the islands, and supply a rescue service between Kiriwina and New Britain. The 1RCS detachment at Port Moresby became 9CU. 8CU maintained an ASR det at Momote and moved to Madang in NOV 1944.

Because of the diverse roles, the flexibility required and the remoteness of the Comms Flights' operations often saw them formed under the command of experienced civilian pilots. Some are long remembered for their unconventional personalities - such as 'Doc' Fenton, the "Flying Doctor" of 6CF, and 'Jerry' Pentland a First War ace of 8CU. Pentland was described by his senior officer as "a master of improvisation and unorthodox organisation".¹⁴⁵ Fenton's 6CU aircraft were sometimes marked on the nose with "Fenton's Flying Freighters".¹⁴⁶



6CU's XJ-F Anson MG842, at Darwin in 1945



[RAAF]

Tigers also served – A17-483 5CU (was coded KF-Y), and A17-117 restored in the US as 12LASU's "A17-489 TA-L"

One role undertaken by the CUs was target-towing. In the UK, some Walruses were fitted with a wind-driven winch which protruded from the starboard cabin window, with the cable and target deployed from the port window.¹⁴⁷ From OCT 1939, several RAAF Seagull Vs (in the range A2-13 to A2-17) were modified by 2AD with a 'Type B' winch below the port cabin.¹⁴⁸ Later, some Walruses were also modified with the B-winch (see 8CU's HD874).

5 COMMS UNIT

5 Comms FLT was formed on 1 DEC 1942 at Garbutt (Townsville) for transport and comms duties with Dragons Tiger Moths and a Walrus in NEA. The first Walrus was X9515/KF-A, replaced in JUL 1943 W2705, with the Flight being renamed 5CU on 29 OCT 1943.¹⁴⁹ Cooperation with the other Services included towing target drogues for Army and Navy anti-aircraft gunners, simulated strikes on Army positions and Navy ships, in addition to searches, photographic and calibration duties.¹⁵⁰ Bases continually supported were at Cloncurry (30 OBU), Augustus Downs (29 OBU), Cooktown (27 OBU), Cairns (25 OBU), Mareeba (24 OBU), Bowen (22 OBU and 1FBMU), Rockhampton (21 OBU), Horn Island (28 OBU), Merauke (44 OBU), Karumba (34 OBU), Iron Range (26 OBU), Breddan/Charters Towers (13 ARD and 6 CRD) and Macrossan (8SD). Other main centres linked were Mackay, Mt Isa, Tennant Creek and Weipa, and such idyllic destinations as Mornington Island, Proserpine and Dunk Island.

Like other RAAF comms units, 5CU flew a wide variety of aircraft, including the D.H.84 Dragon, Tiger Moth, Anson, Walrus, and later the Vengeance, Norseman and Beaufort. An unusual aircraft used for northern operations was the Airspeed Oxford – one was originally provided for USAAF staff in Townsville (BF976 operating under its Allied Directorate of Air Transport/DAT registration VH-COA), but was taken over in OCT 1943 by 5CU and marked KF-W. Walrus aircraft operated in 1944 included X9513 and Z1804 until MAY 1944 when both were despatched away to QANTAS at Rose Bay for major overhauls. The last, X9559, rescued a Vengeance crew on 13 JUN, but was retired in AUG 1944 – it was picked up by 9SQN for retrieval to Bowen with the Unit History crying: "leaving two crews at 5CU without an aircraft to fly". The story of 5CU's Norseman A71-1/KF-T ditching in the Torres Strait on 22 AUG 1944 is in *Vol 7 Issue 1 of our 2017 Telegraph*.¹⁵¹ Walrus HD862 was flown by 5CU briefly over MAY/JUN 1945 for fleet-cooperation with the Royal Navy, possibly as the RN Pacific Fleet sailed north for war's end. 5CU's final flight was on 9 MAR 1946, with the Unit disbanded at Garbutt.

5CU Code	Serial	Details and Name	5CU Code	Serial	Details and Name
KF-A	X9515	Walrus; replaced by W2705 7/43	KF-N	A34-28	Dragon
KF-B	A71-4	Norseman 4/44	KF-O	A34-50	Dragon
KF-C	A9-122	Beaufort 1946	KF-P	A34-78	Dragon
KF-D			KF-Q	A34-84	Dragon;VengA27-407poss 1/44
KF-E			KF-R	A34-80	Dragon
KF-F			KF-S	A34-83	Dragon
KF-G			KF-T	A34-92	A71-1 Norseman 1/44
KF-H	A34-82	Dragon; A71-10 Norseman 8/44	KF-U		
KF-I		Not Used	KF-V	A27-412	Vengeance 2/44
KF-J	A9-195	Beaufort 1945	KF-W	BF976	Oxford (USAAF VH-COA)
KF-K	A71-14	Norseman 1945	KF-X	A17-484	Tiger Moth
KF-L	DJ447	Anson; A9-651 Beaufort 10/44	KF-Y	A17-483	Tiger Moth
KF-M	A34-25	Dragon	KF-Z	A17-684	Tiger Moth

5CU Codes – 1943-1945

Most 5CU aircraft did received "KF-" codes; references for known codes: wartime signals NEA 7/143/AIR(50A) and (58A), OBU A.50s, *adf-serials* A24 database, imagery. Codes were separated by the roundel, so the KF would always be forward, and the individual letter aft, e.g. X9515 KF*A port side, A*KF stbd side. Individual Letter "I" not used.X9515 KF-A, W2705 KF-A (7/43-8/43); X9513 and Z1804 (3/44-5/44); X9559 (6/44-8/44, then to 8CU); HD862 (5/45- 6/45). Oxford BF976 was USAAF at TVL as VH-COA to Oct 43, then 5CU to Dec 43.



5CU Dragon A34-82 KF-H at Garbutt JUL 1943

6 COMMS UNIT

6 Comms FLT was formed at Manbulloo in NT on 8 DEC 1942 under FLTLT 'Doc' Fenton. Normal transport duties involved the ferrying of passengers, freight and mail to remote units based in the Territory, in addition to conducting ASR, calibration duties, and Army and Navy cooperation flights towing target drogues for anti-aircraft gunners. The Flight also conducted medical evacuations of civilian and military personnel to main hospitals or medical centres. The locations commonly flown to were outlying units at Groote Eylandt (51 OBU), Millingimbi (59 OBU), Coomalie Creek (54 OBU), Daly Waters (56 OBU), Drysdale (58 OBU), Broome (79 OBU), Derby (80 OBU) and Gorrie (9SD and 14 ARD), with mercy flights to other isolated settlements and stations. Like other RAAF comms units, 6CF flew a wide variety of aircraft, including the D.H.84 Dragon, Tiger Moth, Anson, Walrus, and later the Vengeance, Catalina and Beaufort.¹⁵²

On 27 FEB 1943, 6CF moved up the track from Manbulloo to Batchelor and soon received its first Walrus (X9520) to enable ASR flights over the Timor Sea in APR 1943. On 6 JUL, X9520 rescued a downed Spitfire pilot from Peron Island, and the following day a Dragon conducted a search from Fenton to Anson Bay and located three downed Spitfire pilots, rescued over the next two days. A common task was food resupply – on 18 NOV a Dragon loaded with fresh meat and vegetables were flown to 309 Radar Station (on North Goulburn Island), landing on 400 metre field surrounded by tall trees, and the take-off was exciting. 6CF became 6CU on 15 NOV 1943.¹⁵³ On 6 DEC 1943, after making a supply sortie to Cape Don, X9520 had a wing float broken off while attempting to take-off in rough seas. The aircraft was not airworthy to return to Batchelor, and a motor vessel Sapphire was coopted for a tow back to Darwin. The pilot and crew boarded the Walrus and when taken in tow, the heavy seas kept them aboard the Walrus crew for the next 12 hours, expecting any minute to be "spilled into the drink". That night anchoring in the lee of Cape Hotham, one crew member remained on the Walrus as anchor watch, but before dawn a gale sprang up and the ship got underway for Darwin, again being impossible to get the crewman off the Walrus. The gale raged all day, but by evening the safety of Darwin Harbour had been reached and the Walrus was brought ashore at Mindil Beach. X9520 required a new wing – but to no avail as in APR 1944 it suffered an engine failure near Batchelor and made a wheels-up landing, resulting in the aircraft turning on its back and being completely wrecked.

On 20 JAN 1945, Walrus X9515 was overdue on a flight to Cape Don – compounding the problem was that its engine starting handle was found on the runway. A search and rescue was just being organised when the "lost" aircraft roared overhead and landed, two and a half hours behind schedule. The pilot had borrowed a tractor starting-handle, modifying it to fit the Walrus, and started the engine. On 14 AUG 1945, during a resupply to Cape Don, a wing tip float of Walrus W2755 hit the swell taking-off and collapsed, causing the aircraft to capsize and sink. The two crew and two passengers managed to escape through a window as the escape hatch was jammed, and were picked up by a launch from HMAS *Moresby*. On 7 OCT 1945, the Unit was moved to the Darwin civil aerodrome. With tasks reducing, as many outlying radar stations were closing down, 6CU disbanded on 30 DEC 1945.

6CU Code	Serial	Details and Name	6CU Coc	le Seria	al Details and Name
XJ-A	A34-59	possible (VH-AQU wore this code 1980s)	XJ-N		
XJ-B	W2755	possible	XJ-O		
XJ-C		not used	XJ-P		
XJ-D			XJ-Q		
XJ-E			XJ-R		
XJ-F	MG842	Anson	XJ-S		
XJ-G			XJ-T		
XJ-H			XJ-U		
XJ-I		not used	XJ-V		
X1-1	W2181	Anson	XJ-W	W1953	Anson
XJ-K	n.k.	Walrus	XJ-X		
XJ-L			XJ-Y		
XJ-M			XJ-Z		

6CU Codes - 1943-1945

6CF/CU Walrus: L2293, X9515, X9520, W2755 (the last 6CU Walrus on strength), W3085, Z1811, HD862.

According to the 6CU A.50, the maximum number of Walrus aircraft on strength was four over JAN/FEB 1944. References for known 6CU codes: wartime signals, *adf-serials* A2 database, imagery, *Anson* book. Codes were separated by the roundel, and the code would read logically, e.g. Anson MG842 XJ*F port side, and XJ*F starboard side. Letters "C" and "I" not used. Dragons: A34-20, -23, -26, -27, -31, -51, -52, -56, -59, -63. Ansons: W1953, W2181, W2589, DJ322, MG520, MG842.

6CU – WALRUS Mk.I XJ-K 1944-5

6CU in *TSS* camouflage before the overall *Foliage Green* K3/177 (as per MAY 1944 policy AGI) was mandated for ASR and Comms aircraft. The colours of *TSS Extra Dark Sea Grey* and *Dark Slate Grey* can be discerned in this image – no sign of any shadowing *TSS*, which had been abandoned by this stage. The fuselage roundel is the later 1:2 proportions (so probably at least 1944) and marked here lower on the fuselage than the unit code.



XJ-K of 6CU, in 1944 apparently in the Northern Territory ¹⁵⁴ The aircraft is in *TSS*, but with no discernible 'counter-shading' camouflage Codes 24" x 15" in 3" stroke, appear to be in *Sky Blue*, marked further aft than other units

1943 policy was code letters in *Sky Blue* (K3/195), changed in MAY 1944 when camouflage was directed from *TSS* to overall *Foliage Green,* with codes to be in *Medium Sea Grey* (K3/183). In 6CU the roundel separated the letters, e.g. here XJ*K, so starboard side 'XJ' aft of the roundel to again read XJ*K. Here, the letters "J" and "K" stencilled, not required for the "X".



The fin flash was taller than the roundel at 30", and 24" wide (12" each colour).

8 COMMS UNIT

On 4 NOV 1943, 71 Wing directed that No 1 Rescue & Communication SQN, based at Goodenough Island, become 8CU.¹⁵⁶ The role was to not only to provide transport, courier runs and comms between Papua, New Guinea and the islands, but also provide a rescue service between Kiriwina (code-named *"Byproduct"*) and New Britain. With a mix of fixed-wing aircraft, 8CU also had an amphibious capability with the Walrus, and later Catalina.¹⁵⁷ At the end of 1943 Walrus HD860 was allotted to 8CU, but this was immediately changed diverting the aircraft to 9SQN for operation on HMAS *Australia*. In JAN 1944 X9516 was received, followed in the next months by W2705, HD864 and HD865. In JUN 1944, the undercarriage of L2213 collapsed landing at Momote (code-named *"Mercantile"*), on Los Negros Island, and was replaced by X9516.

A major enhancement to ASR capability was introduction from JUL 1944 of Catalinas A24-92 and A24-98. The rescue of downed crews continued successfully, with increased responsibility as this mission was passed to the RAAF from the USN in New Guinea, and the RAAF formed the first of its dedicated ASR units, 111ASRF.¹⁵⁸ To boost the capability too in 8CU, Walrus amphibians were detached forward to Momote, and aircraft L2231, P5664, W2783, X9559 and HD874 were added on strength over the second half of 1944, while X9559 was lost in OCT 1944 with its crew on a clandestine mission in Japanese waters. 8CU moved to Madang on 4 NOV 1944, and over the first half of 1945 was operating HD874, X9510, X9515 and X9516, with major duties being target towing and anti-malarial spraying at Jacquinot Bay (New Britain) and Tadji. Finishing the war on courier missions throughout New Guinea, 8CU disbanded in MAR 1946.

8CU Code	Serial	Details and Name	8CU Code	Serial	Details and Name
ZA-A	A27-408	Vengeance	ZA-N	X9516	probable 1944-45
ZA-B	A27-410	Vengeance	ZA-O	A46-95	Boomerang
ZA-C		not used	ZA-P		
ZA-D			ZA-Q		
ZA-E	X9559	possible in Sep 1944	ZA-R	L2213	probable in 1944
ZA-F			ZA-S		
ZA-G			ZA-T	A24-104	Catalina
ZA-H			ZA-U		
ZA-I		not used	ZA-V	P5664	1944-45
ZA-J			ZA-W	HD874	1944-45
ZA-K			ZA-X	X9510	1945; Catalina A24-92 1944
ZA-L			ZA-Y		
ZA-M			ZA-Z	A24-98	Catalina

Known 8CU Codes – 1943-1945

Seagull V/Walrus: A2-5, A2-19, L2213 (ZA-R?), P5664 (ZA-V), W2705, W2783, X9510 (ZA-X), X9515, X9516 (ZA-N?), X9559, HD864 (*Rescue's Angel*), HD865, HD874 (ZA-W). References for known 8CU codes: signals, *adf-serials* A24 database, imagery. Codes normally read logically with roundel separating letters, e.g. HD874 ZA*W port side, stbd side 'ZA' behind roundel to read ZA*W, but by 1945 exceptions were ZA-N and ZA-X as trigraphs, as on Catalinas. Letters "C" and "I" were not used.



L2213, 8CU code looks to be ZA-R, at "Mercantile" (Momote) after landing accident on 17 JUN 1944, TSS colours.



ZA-X X9510 8CU at Jacquinot Bay in APR 1945 having fabric replaced¹⁵⁹ – still *TSS*, unit code as trigraph ZA-X.

8CU – WALRUS HD874 ZA-W 1945

1 Rescue and Comms SQN at Goodenough Island was reformed as 8CU in NOV 1943, to provide a rescue service between Kiriwina and New Britain, and communications duties. Catalinas enhanced the unit's capability, moving to Madang in NOV 1944. 8CU flew anti-malarial spray duties at Jacquinot Bay and Tadji, and after the end of the War, flew courier missions throughout Papua and New Guinea, before disbanding on 4 MAR 1946.¹⁶⁰ Before formation of the Catalina ASRFs at the end of 1944, the vital ASR missions were largely undertaken by Walrus aircraft of 6CU and 8CU.



1945 – 8CU Walrus Mk.I HD874 ZA-W



Overall Foliage Green K3/177 (as per MAY 1944 policy AGI) for ASR and Comms aircraft Fuselage Roundel still 3:5 24" diameter; Fin Flash 20" high x 16" wide; Code Letter stencils 20" high x 12" wide, 3" in *White*.



Walrus HD874 with 8CU as ZA-W AUG 1944 to APR 1945 - a target-towing 'B' winch is visible below the cabin

8CU - WALRUS X9516 ZA-N 1945

ZA-N was probably X9516 which had long service with 8CU from DEC 1943. In FEB 1944, X9516 collided with a barge at sea off Kativa, necessitating repairs by 26RSU, and was then operated again by 8CU until AUG 1944. Departing for QANTAS major servicing (which included "camouflaging and refabricating" – and which at this time would have been into overall *Foliage Green*) it was back on 8CU strength by DEC 1944, serving until despatch to 2FBRD storage in SEP 1945.



ZA-N looking "war worn" with 8CU in 1945

Fuselage 1:2 Roundel 24"; Fin Flash 30" high x 24" wide (12" each); Underwing roundel 36". Code Letters 24" high, 15" wide, 3" stroke in *White;* code letters were stencilled - unusually *in a trigraph* ahead of the roundel, and ZA-X was similar.¹⁶¹ Serial Number is not visible, so assumed to be *Black*.



		This unconventional 1:2 proportioned 'Pacific' roundel was discussed in the Beaufighter article. ¹⁶² Basically, when a type-C1 roundel was overpainted, the <i>White:Blue</i> proportions were 1:2. However here, this was a newly applied roundel and the servicing unit may have been working with these new roundel sizes and ratios. If Pacific roundels were reapplied (such as here on overall <i>Foliage Green</i> as per the MAY 1944 AGI) at an AD (or by QANTAS), the older 25" diameter 3:5 roundel may have been used, but when applied in the field from about
3:5 roundel on ZA-W	1:2 roundel on ZA-N	1944, probably 24" 1:2 roundel was used – but often there was no consistency.

8CU – WALRUS HD864 'Rescue's Angel'

HD864 with 8CU over MAY-JUN 1944, at Momote on Los Negros Island (in the Admiralty Islands) Served with 8CU over FEB-AUG 1944, generally detached to Momote. Appears to have had no unit code letters.



HB64 O

HD864 Rescue's Angel with mermaid nose art mid-1944 at Momote

TSS camouflage, 1:2 Fuselage Roundel 24" diameter, Fin Flash probably 30" x 24" (12" per colour) Nose art reference colours Red Roo Models RRD4865: *blond* hair, *blue* mermaid tail, *Rescue's Angel* script in *Yellow*.







Aircraft not known, Donald Duck possibly 9SQN, with life ring.

3OTU SEAGULL / WALRUS NOSE ART – A2-8



[[]RAAF 000-148-406]

Seagull V, apparently A2-8 in TSS, with aux struts fitted at 3OTU at Rathmines on 9 MAY 1943

The Walrus was commonly known as the "duck" – nose art is "a tough looking duck holding two scrawny ducklings by the throat, a most apt caricature of the unit's activities".¹⁶³ It appears an instructor is holding apart a 'sprog' pilot and a WAAAF! A query has been whether this is a Seagull or Walrus? Even though the vertical aux wing-fold struts of the Walrus (ahead of the engine) are present, this is inconclusive as they could be temporarily fitted to the Seagull to enable wing-fold. Also, the leading-edge upper wing slots are not visible, perhaps locked in and covered over. Small 16" fuselage 3:5 roundel, fin flash 24" x 16" wide.



Taken at the same time, apparently A2-8, with TSS demarcation barely visible; below image aux struts not fitted



[colourised RAAF enlarged] The 3OTU nose art about 24" high A



4" high A later image with no aux struts, after repaint but retaining the artwork

MUSEUM SURVIVORS

In the UK, six Walruses were acquired by United Whalers for their 1946-47 whaling season. Three were used (G-AHFL, G-AHFM and G-AHFN) from the factory ship *Balaena* which had been fitted with the catapult and recovery crane from HMS *Pegasus*. The aircraft proved only moderately successful, flying without undercarriages in the Antarctic regions, and they were not used again. Eight Walrus had been exported in 1947 to Argentina (with serials 2-0-25 to 2-0-32) and some were used by the Argentinian Antarctic Expedition which surveyed Deception Island and Discovery Bay.¹⁶⁴ Another Walrus, HD874, was taken on a similar Antarctic exercise by an Australian Expedition in 1947. It made one sortie to photograph the volcano Big Ben, before being wrecked in a storm.

There are three Walrus/Seagull V survivors in museums (with a fourth on the way), all in beautiful condition, and two are Australian! The RAF Museum at Hendon has ex-RAAF **A2-4**, which survived because it was operated postwar on the Australian civil register as **VH-ALB**. In addition, two other ex-RAAF aircraft made it onto the Civil Register in 1949 – **A2-3** as **VH-BGP**, and **P5664** as **VH-BLD**. Both were operated very briefly by **Amphibious Airways**, arriving in New Guinea in APR 1951. VH-BGP was damaged several times during the year and shipped to Lae for repair, and operation of VH-BLD became unviable and was returned to Sydney. Both had their registration cancelled in JUN 1954 and were destroyed.



[RAAF]

VH-ALB ex-A2-4 in the 1960s

RAAF Walrus **HD874** was prepared for the 1947-48 summer expedition to Antarctica, and painted in overall *Yellow.* The aircraft only flew once down south before destruction by a storm in DEC 1947. The wreckage was abandoned on Heard Island after salvage of as much equipment as possible. In 1980 the damaged metal hull was recovered by Dept of Transport vessel MV *Cape Pillar*, and delivered to RAAF Museum, Point Cook, for restoration which was completed in 2002. In addition, ex-RN Walrus **L2301** is displayed at the FAA Museum, Yeovilton.



HD874 on Heard Island for recovery in 1980

A2-4 RAFM HENDON

A2-4 was sold by Disposals in OCT 1946 and bought by McIlree Motors, Sydney, for £600. Registration **VH-ALB** was reserved, but cancelled and aircraft stored by McIlree. Sold in 1959, it was prepared for CofA by Lawrence Engineering and Sales, Camden, and test flown in MAR 1960. Registered as VH-ALB again in APR 1960 for private use, it was later registered for aerial work and operated by **Amphair (Amphibious Air Carter)** of Melbourne. Equipped with seven passenger seats, VH-ALB flew joy flights from Seaford, Port Philip Bay. Resold in SEP 1962 £5,000, it was operated by **Barrier Reef Flying Boat Service** from Mackay until placed in storage in MAR 1963.



[adf-serials Martin Edwards]

A2-4 at RAF Museum Hendon

In 1964 VH-ALB was sold, and damaged when ground looped during conversion training, followed in JAN 1966 by a forced landing at Terrigal, due engine trouble. Later flown back to Camden, where in 1968 it was damaged by a wind storm. By JUL 1969 it had moved to Bankstown for restoration with a view to competing in the London to Sydney Air Race and then test flown for CofA renewal. In DEC 1969, VH-ALB departed Sydney for Singapore, reaching Dili to be held up by lack of appropriate fuel. Further damage occurred after repairs were completed and correct fuel obtained, departing for Bankstown on 30 DEC 1969, arriving on 8 JAN 1970. It soon suffered engine failure again shortly after take-off at Taree, but struck a stump in long grass during forced landing damaging undercarriage, fuselage, starboard float and wing (pilot Nev Parnell was uninjured). After dismantling, VH-ALB was returned to Bankstown, and in MAR 1971 its registration was cancelled.



[Warpaint No.39, Walrus p.26]

Seagull V A2-4 at the RAF Museum at Hendon

In MAY 1972 VH-ALB was exchanged with the RAF Museum for Spitfire XIV TE384 and \$5,000, and over JAN-APR 1973 was ferried to UK via the US. By NOV 1979, restoration was complete and A2-4 was displayed in RAF Museum. The *TSS* scheme chosen was 'handed' in a B-pattern. A further history of A2-4 is on-line, by the RAF Museum.¹⁶⁵

HD874 RAAFM POINT COOK

HD874 was in the batch of seven (HD812 to HD874) purchased by the RAAF in MAR 1943, being Mk.I aircraft, not the generally held view of being Mk.IIs. HD 874 was received at QANTAS Rose Bay for assembly in SEP 1943, stored at 2FBRD at Rathmines, issued to 9SQN, and then passed to 8CU in AUG 1944 (ZA-V). After postwar storage with 1FBRD at Lake Boga, HD874 was sent to Rathmines in AUG 1947 and was issued free to Department of External Affairs for the Antarctic Flight in OCT 1947. Both Walrus HD874 and Kingfisher A48-13 were prepared for the 1947-1948 summer expedition to Antarctica, and painted in overall *Yellow*. Although finished with the 1947 Pacific National Markings, these were altered at the last minute by re-introducing the small *Red* centre to the roundel (the BCAIR roundel) just prior to departure.¹⁶⁶



Walrus HD874, recovered from Antarctica and lovingly restored by the RAAF Museum at Point Cook

In OCT 1947 the Antarctic Flight named the aircraft 'Snow Goose' and embarked on HMALST 3501 (later HMAS *Labuan*) for voyage to Heard Island. Landing on 18 DEC, three days later HD874 was wrecked early in the morning by a storm with winds gusts to 120 mph, and was assessed as beyond economical repair with the available facilities. In JAN 1948 it was abandoned on Heard Island after salvage of as much equipment as possible, and it was not until MAR 1980 that the damaged hull was recovered by Department of Transport vessel MV *Cape Pillar*. This would be a long-term restoration for the RAAF Museum Point Cook, and it was not until APR 2002 that the completed aircraft was placed on display in the all-*Yellow* scheme used in Antarctic Flight service.



Antarctic Walrus HD874 at the RAAF Museum at Point Cook 2002

L2301 FAAM YEOVILTON



[ratomodelling.co

Walrus L2301 in TSS at the FAA Museum at Yeovilton

L2301 was built in 1939 by Supermarine at Woolston, Southampton, to the FAA Specification 37/36, for Contract 5344422/36. However, it was diverted prior to issue to the FAA to Irish Army Air Corps, with the Class-B registration N-18 (together with L2302 and L2303). In JAN 1942 it was stolen in Eire by four Irish nationals in an attempt to fly to Cherbourg and join the *Luftwaffe*, but it was intercepted and escorted into St Eval by RAF Spitfires, with aircraft and its crew being returned under guard to Ireland.¹⁶⁷



[Air-Britain]

L2301 at the FAA Museum in an unusual interpretation of TSS "shadow compensating"

Sold to Aer Lingus in AUG 1945 and allocated registration EI-ACC, L2301 does not appear to have been used by Aer Lingus and was sold in 1946. Bought by a member of 615 (County of Surrey) SQN RAuxAF as a squadron hack for £150 and registered G-AIZG, it was ferried to Biggin Hill – for squadron members' use for bathing parties along south coast! The reason why these flights were discontinued is obscure, but by 1949 it was noted on a dump in Oxfordshire. Fortunately, in 1963 it was recovered by Historic Aircraft Preservation Society, and bought for £5 and passed to the RN apprentice school. After restoration through 1964-1966, it was handed over to FAAM, arriving at Yeovilton in DEC 1966.

L2718 Aircraft Restoration Co DUXFORD



Walrus W2718 in 1991 before restoration with the Southampton Hall of Aviation

W2718 was one of an order for 200 aircraft built under Contract B.43393/39 by Saro, most of which were built as Walrus Mk.Is; of this batch, W2705, W2707, W2755, W2768 and W2783 were purchased by the RAAF in 1942. In the 1950s, W2718 survived as a caravan, until finally rescued in 1989 by the Southampton Hall of Aviation. A lengthy restoration began, and it was registered as G-RNLI – a very appropriate registration reflecting the *Royal National Lifeboat Institution*. Moving to a private home in 1995, restoration continued in Norfolk until 2006, and then moved to the Solent Sky Museum, Southampton, until 2009. W2718 then was transferred to Walrus Aviation Ltd, in Jersey, with restoration continuing over 2010-2018.



W2718/G-RNLI arrives at the Aircraft Restoration Co at Duxford in MAR 2018

The latest and most promising move has been to the Aircraft Restoration Company at Duxford in 2018, where restoration continues, perhaps to airworthiness – it is now registered G-WLRS.¹⁶⁸

ONE THAT GOT AWAY – Z1781 in Canada as CF-GKA

Z1781 was one of an order for 50 Mk.II aircraft built by Saro, serialled Z1755-Z1784, Z1804-Z1823. Of this batch, Z1804 and Z1811 came to RAAF in 1943 on loan from the RN. Five went to the RCN in Canada – Z1768, Z1771, Z1775, Z1781 and Z1814.¹⁶⁹ Z1781 served with No. 1 Naval Air Gunners School at RCAF Yarmouth, in Nova Scotia from 1943 to 1945. The RCAF took the aircraft on strength with Eastern Air Command in 1946, and immediately the RCN requested its use by RCN Air Component Training at Dartmouth, and so was transferred back to the RCN with 743SQN (FRU 743).¹⁷⁰



[GRB Collection]

Walrus Mk.II Z1781 as CF-GKA in Canada with Kenting Aviation, presumably 1948

In 1947, Z1781 was transferred back to Central Air Command's 10 Group at Dartmouth, and allotted to 'pending disposal at location', to be struck off charge on 6 DEC 1947. It was bought by Kenting Aviation in 1948, and subsequently registered as CF-GKA for transporting foresters and survey geologists, and conducting aerial photography on Canada's east coast, Newfoundland and Labrador. It was evidently nicknamed "Puttsy Puttsy" due to the sound of its engine. Unfortunately, it did not last long due to being a wooden-hulled Mk.II Walrus, and its registration was cancelled in 1952.¹⁷¹

Postscript

During wartime, many survivors owed their lives to the ubiquitous 'Shagbat', or better known in the RAAF as 'The Duck'. Though no total number has been recorded, the rescues must have run into thousands.

British interest had been lukewarm – the RAF Director of Technical Development when viewing the Seagull V prototype in 1935 stated: "*Very interesting – but of course we have no requirement for anything like this*." ¹⁷² So despite the vacillations of official British policy at the time, it did show the RAAF's vision in specifying an amphibian of this capability.

Sources:

IK Baker, Aviation History Colouring Book 4, Roundels, Tail Stripes, Melbourne Vic, 1995. I K Baker, Aviation History Colouring Book 27, Missing Links, Queenscliff Vic, 1996. IK Baker, Aviation History Colouring Book 29, Those Eagles 2, Queenscliff Vic, 1997. IK Baker, Aviation History Colouring Book 66, RAAF Colour Schemes & Markings Part 2, Queenscliff Vic, 2009. IK Baker, Aviation History Colouring Book 67, RAAF Colour Schemes & Markings Part 3, Queenscliff Vic, 2009. IK Baker, Aviation History Colouring Book 69, RAAF Colour Schemes & Markings Part 4b, Queenscliff Vic, 2009. IK Baker, Aviation History Colouring Book 70, RAAF Colour Schemes & Markings Part 5a, Queenscliff Vic, 2010. IK Baker, Aviation History Colouring Book 75, RAAF Colour Schemes & Markings Part 8, Queenscliff Vic, 2012. IK Baker, Aviation History Colouring Book 80, RAAF Colour Schemes & Markings Part 13a, Queenscliff Vic, 2014. G Pentland, RAAF Camouflage & Markings 1939-45 Vol 1, Kookaburra, Melbourne, 1980. G Pentland, RAAF Camouflage & Markings 1939-45 Vol 2, Kookaburra, Melbourne, 1989. J Tanner, British Aviation Colours of World War Two, Arms and Armour Press, London, 1986. J Goulding & R Jones, Camouflage & Markings RAF Fighter Command 1936-1945, Doubleday, New York, 1971. B Robertson, British Military Aircraft Serials 1878-1987, Midland Counties, Leicester, 1987. P Lucas, Camouflage & Markings No.2, Scale Aircraft Monographs, Guideline, Luton, Beds, 2000. C F Andrews & E B Morgan, Supermarine Aircraft since 1914, Putnam, London, 1989. G W R Nicholl, Supermarine Walrus, Foulis & Co, London, 1966. A W Hall & R Sturtivant, Supermarine Walrus, Warpaint Book Series No.39, Luton, 2004. P Malone & G Byk, Understanding RAAF Aircraft Colours, Red Roo, Melbourne, 1996. B Pattison, The Kingfisher in the Antipodes, Red Roo, Melbourne, 1998. Units of the RAAF, A Concise History, Vol.4 Maritime and Transport Units, AGPS, Canberra, 1995. Units of the RAAF, A Concise History, Vol.8 Training Units, AGPS, Canberra, 1995. RAAF Technical Order, AGI No C.11 Issue 4, Standard Aircraft Finishes and Markings, AFHQ Melbourne, 31 AUG 1942. RAAF Confidential Order AFCO A.3, Code Letters for Operational and Reserve Squadrons, AFHQ, 4 JAN 1943. RAAF Technical Order, AGI Part 3(c) Instr.1, Camouflage Schemes and Identification Markings, AFHQ, 26 MAY 1944. RAF A.P.515A, The Walrus Manual, 2nd Edition of DEC 1937, is available on-line.¹⁷³ AM Sir Richard Williams, These Are Facts, AWM, Canberra, 1977. J Herington, Air War Against Germany & Italy 1939-1943, AWM, Canberra, 1962. D Gillison, Royal Australian Air Force 1939-1942, AWM, Canberra, 1962. C D Coulthard-Clark, The Third Brother, Allen & Unwin, Sydney, 1991. N M Parnell & C A Lynch, Australian Air Force since 1911, Reed, Sydney, 1976. J Forsyth, The DH82A Tiger Moth in Australia, Skyline, Melbourne, 1995. D C Teague, Strike First They Shall Not Pass Unseen, Baron Jay, Plymouth, 1982. R Sturtivant, The Anson File, Air Britain, Tonbr

How to Read RAAF Historical Records

Aircraft Status Cards

Shep

Aircraft status cards, or to use their correct name, *RAAF Form E/E.88 Record Card – Airframes, Aero Engines, Mechanical Transport and Marine Craft*, were a general administrative record of an aircraft's service and apart from recording an aircraft's type and serial number (and usually previous identities if the aircraft had been sourced from overseas) noted its despatch and arrival at various units, occasionally periods of unserviceability and other such activities. They did not record any information about hours or operations flown or markings carried or specifics about an aircraft's employment within a particular flying unit. Entries were made across three columns titled "Date", "Details" and "Authority".

Type LOCKHEED HUDSON No. A16-192 Type LOCKHEED HUDSON No. A16-192 Airrame Fitted WRIGHT GYOLONE No. LATE B.W.678 Received from U.S.A.A.C Date Received HISTORY (MOVEMENTS, CASUALTIES, Etc.) Date. Details. Authority. Date. Details. Authority. Sum 2 Rec 2.A.D 20C U.S.A. $Q165/0.5/4$ $U = 0.422$ Received 23.00 $M = 3.4.0$. S = 0.42 Rec 2.A.D 20C U.S.A. $Q165/0.5/4$ $U = 0.422$ Received 23.00 $M = 3.4.0$. S = 0.42 Rec 2.A.D 20C U.S.A. $Q165/0.5/4$ $U = 0.422$ Received 23.00 $M = 3.4.0$. S = 0.42 Rec 2.A.D 20C U.S.A. $Q165/0.5/4$ $U = 0.422$ Received 23.00 $M = 3.4.0$. S = 0.422 Runder excision af 2.H.D. $32.009/0.6/4S = 0.442$ Runder $S = 0.000$ $S = 0.000$ $S = 0.0000S = 0.4400$ Runder $S = 0.0000$ $S = 0.0000S = 0.4400$ Runder $S = 0.00000$ $RU = 0.0000S = 0.4400$ $S = 0.00000$ $RU = 0.00000S = 0.4200000$ $RU = 0.000000$ $RU = 0.0000000$ $RU = 0.000000000RU = 0.0000000000000000000000000000000000$	RECORD CARD-AIRFRAMES, AERO ENGINES, MECHANICAL TRANSPORT AND MARINE CRAFT						
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29.4.4. V @ C. returned to Rouchmond RD320'9/2 1.9.972 allotted S.A. Die 32.59 00 835'9 ETD unknown ETD unknown (RD320'9/2 1.9.972 allotted S.A. Die 32.59 00 835'9 H. 5: H2 C. al 32 S&D (RD ex 2.A.D. 29650/0.4/5 2.9.42 Rec. al 5 A.D. in 32.59 (R. P. 2)9 25'5'42 C. al 32 S&D (R34/29) (1.9.42 Bod ready 3 weeks at 5'A.D. "49. 16.42 C. al 32 S&D (R34/29) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R34/29) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R34/29) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R34/29) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R34/29) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R34/29) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R32/2) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R24) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R24) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R27) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R27) (1.9.42 Bod ready 10 day at 5'A.D. "49. 15'6'42 C. al 32 S&D (R27) (1.9.42 Bod ready 10 day at 5'A.D. "49. 16'6'42 Rec 3AD (2.0 32 S&D) (1.9.42 Bod ready 10 day at 5'A.D. "49. 16'6'42 Rec 3AD (2.0 32 S&D) (1.9.42 Bod ready 10 day at 5'A.D. "49. 16'6'42 Rec 3AD (2.0 32 S&D) (1.9.42 Bod ready 10 day at 5'A.D. "40. 16'6'42 Read 1350 rec 1AD (1.9.42 Bod ready 10 day at 5'A.D. "40. 17'6'4' (1.9.42 Bod ready 10 day 10 da	27-4-40	Departid for \$ 32 S&D en 2 AD	19.00110.74	al. 8.10	15 at Horn Island.	H.A. 238 10/7.	
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12-6-42 Eslan " How Island 329/13 2/ 21.9.42. alletted 1359 ex 17. 2.1 12-6-42 Poec 3 AD ex 32 8 AD & R. P. 23/9 14-6-42 Allotted 3AD ex 32 8 DD for Boh & 0 51 4/6 24-6-42 Read 1359 ex 1AD is 3AD ex 3AD 0 51 2/6 24-6-42 Read 1359 ex 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 ex 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD is 3AD is 3AD 0 51 2/6 25.9.42 Some al 1359 is 1AD 0 51 2/6 25.9.42 Some al 12 Some	15.6.42	C al 32 SQD 3	3892 15/6	20 .9.42	Rec. 1A. NIOLERAD (Did THIS)	CERP 2019	
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24-6-42 Reallouted 3218D en 32 80D for 80 h 6,0 51 24/ 25. 9.42 Read 1359 en 122 139026 25/2 24-6-42 Reallouted 3218D en 32 2051 24/ 28.9.42 USur at 1350 139020 28/2	23-6-42	Hec 3AD ere 32 88D.	29.23/6	23.9 :42	elsoned 350 and in 1	191. 418	
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10,10,12 Uporre at 13 29 Bago38 Dis				5.10.42	ydere ar 13 bg	139038 510	

RAAF Form E/E.88 for Hudson IIIa aircraft, A16-192. [NAA: A10297, BLOCK 84].

The "Date" referred to in these cards should be used with caution. They may or may not be the date of the event referred to and at times are actually the date of the entry being made and might not even reflect the date of the authority. It should also be borne in mind that the dates are not necessarily chronological.

"Details" referred to the reason for the entry being made. Hand written cards can be very difficult to read and frequently used abbreviations. Some abbreviations did not seem to be standardised and variations at times appear.

The general sequence in terms of recording the movement of an aircraft between units was for it to be Allotted, Issued, then Received. Allocation usually referred to an aircraft being "earmarked" for a particular unit. Issued usually referred to the responsibility for it being (or about to be) handed over. Received usually referred to the receiving unit actually taking charge of the aircraft. Recording being what it was, as many variations as one could think of exist in this sequence from a clear chronological recording of each step as it happened through any amount of omissions and disorder through to one entry having an aircraft at one end of the country at a particular unit and the next entry having it being written off charge of another unit at the opposite end of the continent many months later.

RECORD CARD-AIRFRAMES, AERO ENGINES, MECHANICAL TRANSPORT AND MARINE CRAFT. R.A.A.F. Form E/E.88. (June, 1938) Type WIFRAWAY M.K.II No. A20-503									
Order No.		Engine	Engine J						
Received from COMMONWEALTH AIRCRAFT CORP. Date Received									
HISTORY (MOVEMENTS, CASUALTIES, Etc.)									
Date.	Details.	Authority.	Date.	Details.	Authority.				
3. 3. 49	Page 1 D Des C. DC engine 453	10545 3/3	21-9-112	Semant 1950	120041 21/9				
4-3-42	allatted O-S.F. T.S exc 1. A.D	HQ7697.4 13.	5-10-42	brashed in operational	M485 5/10				
10.3.42	Imued S. S. F. T. S ex 1. A.D	Prob. 10/3		Patrol duties	-1				
11.3.42	Rec 5. 5. F. 1.5 ex 1. A. D	59+28.11/3	5-10-12	14/5 at 12.5Q	1220595/10				
16.3.42	Insued 55 FTS ex 1. A.D	59+49.14	4+10-42	Field repairs impracticable	m4714/2				
/	ia ogu	1	1010.42	Issued to IRSU exizing	122067 "10				
BO. 3 +4	F at 12 dayd. 1	3 86 3%	2. 11. #2	Al IRSU - lew under -	1 RSQ04232/1				
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20-4-42	C• " "	12 889 29+	5.11.42	Seno. mdef. Val 1REU.	FRP 0711				
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	leuleure Costenfdamage up humos			Convented to component	5 HQ0190 11				
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WIRRAWAY M.K.II A20-503 (RED) 453									

RAAF Form E/E.88 for Wirraway aircraft, A20-503. [NAA: A10297, BLOCK 108].

Entries were not limited to recording the administrative shuffling of an airframe between units. Others, especially until about July, 1942 (although examples can be found into 1945), referred to the official, semi-regular, reporting of an aircraft's serviceability and often took the form on a card as (say) "C at 12Sqdn":

- C = Serviceable (actually in flying condition).
- E = Unserviceable but expected to be serviceable within 3 days (from date of signal).
- E Star = Unserviceable and expected to be unserviceable for more than 3 days (from date of signal).
- F = Unserviceable for more than 14 days but less than 1 month (from date of signal).
- G = Unserviceable for more than 1 month.
- H = Unserviceable and awaiting conversion or write-off.¹⁷⁴

As an aside, this reference also gives the meaning of the abbreviations, "U/E", "I/E" and "I/R" which mean, Unit Establishment, Initial Equipment and Immediate Reserve, respectively.

Every defence entity has an establishment whether it is equipment or people. A unit would have an establishment table which set out exactly how many people of which trade group and of what rank were required, how many vehicles and of what type it was supposed to have, etc. Aeroplanes, obviously were no different. Naturally the establishment listed what a unit was *supposed* to have, not what it actually *did* have at any one time and the variation could be above or below (usually below) that required. During the Second World War, the Unit Establishment was broken down into two segments: Initial Equipment and Immediate Reserve. Initial Equipment was the quantity of aeroplanes a unit was supposed to have available for operations and that might be (say) 12 aircraft. The Immediate Reserve was the quantity of aeroplanes, on charge of that unit, that it could cycle through various levels of maintenance or repair in order to keep 12 aircraft available for operations and that might be (say) 6 aircraft. The Unit Establishment would therefore be expressed as "12/6". If aircraft required a deeper level of maintenance or repair than could be provided at its own unit, then the aircraft might be allocated away and that movement would usually result in the Allotted, Issued and Received sequence being recorded on an aircraft's E/E.88.

The last column of an entry was the "Authority" and what was recorded here was the identifier of the signal that ordered or advised of a particular activity or event. For the serviceability reporting referred to above, the signal would be prefixed with a "Q" (or sometimes the squadron number and then a "Q"). "Q" meant "Equipment".¹⁷⁵

Other letter abbreviations that appear, especially later, refer to aircraft accidents and follow a percentage figure representing the assessed level of damage to an area of an aircraft. Letters such as "U" (undamaged), "M" (repairable at unit), "R" (repairable but beyond unit capacity), "S" (salvageable as components or other items) and "W" (entirely unsalvageable – write off) being commonly seen recorded on cards.

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RAAF Form E/E.88 for P-51D Mustang aircraft, A68-700. [NAA: A10297, BLOCK 390].


Curtiss Corner: P-40E-1-CU 41-24998

ET322; CV-S of No 3 Squadron RAAF, DAF.



Note: This Profile is a representative only: Code Letter should be Sea Grey

<u>History</u>

The RAF received an allocation of 432 airframes under Lend Lease requirement BSC322 from the 1500 P-40E-1 aircraft built under Contract DA-3 (Contract Defence Aid #3).

After allocation of airframes to other Commonwealth Air Forces, the RAF in the Middle East, known as the Desert Air Force, received circa 235 P-40E-1 airframes. An additional 141 of these P-40E-1 aircraft would also be redirected by the RAF to the RAAF for service in the Pacific.

Many of these Desert Air Force P-40E-1 aircraft were to take part in the battles from the middle of 1942 with both No 3 and No 450 Squadrons until the fall of Tunisia, with a large number of them being damaged or destroyed after only a short period of time.

All the Squadrons of 239 Wing and the SAAF Squadrons of 233 Wing were to operate this under the Desert Air Force, with this version of the Kittyhawk 1A alongside the original Kittyhawk I.

P-40E-1 41-24998 with the Curtiss Wright Customer Sequence Number of 783 and Manufacturing Serial Number of 19509 was completed at the end of January 1942, by Curtiss, and then accepted before being redirected on the 27th February 1942 from the USAAF to the RAF under Contract DA3. Most of the original batches of DA-3 Aircraft were transferred to the RAAF or RNZAF in early 1942 due to their need of a modern fighter in the ABDA or SWPac area.

The RAF allotted Serial would be applied on the aircraft before being disassembled then boxed in two crates, with RAF decals included; it was transported to its desired port for embarkation, New York, for onward shipping on the SS Mormac Swan.



With Curtiss Wright Customer Sequence Number 783 chalked on the P-40E-1 cowl, this has been identified as 41-24998 (though no Radio Call sign painted on tail, the Model/FY data block is under and forward of the port cockpit), later to become ET322 in the DAF. Pictured undergoing "cold" weather for 0.50cal firing at Buffalo New York.

Back ground on shipping and re-assembling

Moore & McCormack Company was formed the in 1913 by Albert V. Moore of Hackensack, N.J. and Emmet J. McCormack of Brooklyn, N.Y. In September of 1938, the Company officially became Moore McCormack Lines, Incorporated.

In 1939 more ships of the standard C3 design were ordered. SS Mormac Swan was one of those. During the war, the Company was assigned responsibility for the operation of 707 different vessels, 2,199 different voyages and the movement of over 20,400,000 tons of vital war cargo to every theatre of the war.

Ships in the Company's pre-war fleet became baby flat-tops, destroyer and submarine tenders, cargo attack ships, troop transports and performed many other war services. Moore McCormack lost altogether eleven ships during the conflict.

That included famed ships that landed P-40E/E-1s into Australia in early 1942: C3 Ships such as the SS Mormac Sun, and SS Mormac Star.

In this case P-40E-1 ET322 (CW#783) arrived in Africa 4th June 1942, and re-assembled at 107 Maintenance Unit, RAF located at RAF Kasfareet, Egypt.

After preparation for desert service, mostly a substitution of light stone over green and Azure Blue over sky, she went up for her first reassembly test flight, but was damaged on landing, on the 8th June 1942. It was struck off charge on that day, for it was deemed a write-off.



Above is a Kittyhawk at 107MU RAF Test and Delivery Flight, 1942. Note no External, but internal review mirrors...P-40E-1 Standard as shipped.

But after closer examination, she was declared Cat 2, and ET322 was repaired. Alas again on the 20th July 1942 after repairs, the undercarriage retracted on landing at *Zuara*. Actually spelt Zara, it is near where 107MU was, at RAF Kasfareet in the Canal Zone (Egypt) ET322 was finally repaired a second time and ferried to No 3 Squadron RAAF on the 9th September 1942 by P/O Edward Alderson coded as CV-S to LG175.



The unit was known to be involved in the testing of No 3 Squadron RAAF's BF-109G-2 #6, though little is known of the one on the left. Sqn Ldr Bobbie Gibbs had flown her in late October 1942.

F/Sgt Ken Bee, an ex Bank Officer on joining up on the 4th March 1941, was trained at 2ITS and 8ETFS (No 12 Course) before being sent to Canada to 1SFTS (RCAF). Then on 28th November, he made the voyage to the UK, arriving the 10th December 1941, and went through 58OTU before getting his first operational posting with 616 Squadron RAF on the 3rd March 1942 flying Spitfire IIbs.

Note: No 616 Squadron RAF became the first operational RAF squadron to use a jet aircraft when it was equipped with the Gloster Meteor during 1944.

On the 18th April 1942 he was sent to the Middle East. After some twelve months after joining he had arrived in the Middle East after completing his EATS Training and conversion. On arrival, he was posted to join 239 Wing on the 1st July 1942. He later transferred to No 3 Squadron RAAF on the 21st August 1942.

On the 30th August 1942, he had picked up Kittyhawk Mk1 AK625 and ferried it to LG91 where No 3 Squadron RAAF was based. Sadly this aircraft would be lost, along with pilot, Sgt Keith Hubert Freer Serv#403577 on the 9th September 1942.



No cover or protection on the ground in the desert here!



Using the Codes and serials of the picture, upper left, it seems in September 1942, spurious "Black". Buz advises me that the filter used on this camera resulted as such and were in fact Grey/Bluish. RAF Roundel changed by late July 1942, but underwing stayed the same 1941 pattern. Same series of pics, AK778/CV-J shows off her Letters in actual Grey without camera filter and censor per cowl name. Rudder Flash pattern is still 1941 standard, as is underneath roundel. Per red circle read on next page. Pic supplied by Buz vis RAAFWA

The following day on the 31st August, 1942, Ken Bee ferried another Kittyhawk Mk1 in, an ex No 2 Squadron SAAF aircraft, AK776/CV-A. His first operational sortie was on the 2nd September 1942 when, along with five other aircraft on an escort mission for eighteen Martin Baltimore bombers to Qaret El Eiminat Area, he flew Kittyhawk Mk1A EV361 CV-C but no enemy aircraft sighted.

Note: This late model (H87A4) of P-40E-1 in this EV4** serial onwards series, (perhaps from as low as 41-36454/EV200), <u>had the extended broad cord Rudder and fin fillet</u>, later standard on P-40K-5s. Later versions of this model also had the fishtail exhausts also fitted. Often quoted as P-40Ks, <u>always check serials first!</u>



Above USAAF Tails and Serials. P-40E-1 FY41-36576 aka EV322 /CV-I circled in red below, had the same extended Cord Fin and Rudder and Fishtail exhausts as the above 41-26482 and 41-36504. Above Kittyhawk MkIA is EV365 "X" with SAAF has the extended Chord Fin and Rudder: In a side on shot of the photo series the fillet was censored out in the previous page 112 photo as they taxied off as well the broad chord fin, but here below it isn't either in this shot!



Snap shot of daily utilisation for ET322 during a period

F/Sgt J W Bullwinkle flew ET322/CV-S later that day (1330-1445hrs) on an escort of a further eighteen Baltimore aircraft bombing raid on Deier El Aghram. No enemy aircraft sighted.

The next day, ET322/CV-S was flown by three different pilots on three sequenced sorties. The first two flown by Sgt T C Woods and Sgt J S Holder, both on escort duties for Baltimore Bombers, and they had not sighted any enemy aircraft.

On the third sortie, when F/O A Glendinng flew ET322/CV-S on that sortie, (at 1355-1510hrs) for another escort mission for eighteen Martin Baltimore bombers to Deier El Ragil Area, twelve BF109Es and Fs attacked from the 6 O'clock position.

Six of these went down to the Baltimore formation when the order came to turn around and engage the six. Glendinng turned into one that was firing on him, and after two circles, he was on his tail.

He fired three long bursts, with the last being four seconds in duration, when he saw black smoke coming from the aircraft. The enemy aircraft rolled onto its back and went into a vertical dive. He went after him after noticing that there was no longer any smoke emitting.

As he dived and gained speed, Glendinng's canopy blew open at four thousand feet and so he abandoned the chase and returned to LG91. On the 4th September 1942, another escort was flown in ET322 by Sgt E H Anderson for eighteen Martin Baltimore bombers to Deier El Munassib Area with no enemy aircraft sighted.

The following day during a scramble, Sgt G E Clabburn flew ET322 but with two others, failed to form up and returned to LG91 and hour later.

The next flight was on the 8th September 1942 when F/Lt G F Plinston flew her during a scramble for interception to the North West Sector on a formation of twenty-five BF109E/Fs, MC202 and twenty plus Stukas. Several pilots claimed enemy aircraft, but Plinston was not one of them.



On the 9th September, Sgt H Cashmore flew ET322 on a scramble, but made no interception, and again later in the day, Sgt J Brook, whilst on another scramble had taken her up for another unsuccessful intercept.

Sgt J Brook, on the 11th September, took her up on a scramble for a patrol over Berg El Arab Area, with no enemy aircraft sighted. The following day Sgt H J Bray, also on a scramble, flew 20 miles south west of El Alamein as six enemy aircraft had been sighted nearby. No intercept by him was actioned.

As part of a eight aircraft patrol on the 14th, Sgt J Caldwell piloted ET322 after a scramble sighted six BF109s and engaged them in the Qattara area towards Baba. Two other pilots claimed a kill each.

Later that day, Sgt Ken Bee took off at 1600hrs in ET322 as part of a eight aircraft flight as a diversion as 112 Squadron RAF flew a fighter bomber raid on LG23.112, whilst no 3 Squadron RAAF provided top cover.

On the 15th September Sgt Ken Bee scrambled as part of a No 3 Squadron RAAF eight aircraft flight, along with a No 450 Squadron Flight as top cover, when seven BF109s were reported south west of El Alamein.

A further eight BF-109s appeared and a general dog fight broke out between all aircraft. With "out of the sun" attacks by BF-109s followed some fifteen miles from El Alamein, with three aircraft fires noted on the ground, a further BF-109 and a Kittyhawk seen to spin into the ground with both pilots baling out, a head on collision between a BF-109 and a Kittyhawk take place , and a further Kittyhawk spinning out of control.

Two No 3 Squadron Pilots missing, one aircraft tail's damaged (EV346/CV-U, piloted by P/O B Kilday) and Sgt Ken Bee was slightly wounded in the head and ankle, and had landed at LG91 with his aircraft being badly holed.

ET322/CV-S was Cat II and needed repairs and so she was allotted to a Maintenance Unit, where she never returned to No 3 Squadron RAAF again. ET322 was struck off on the 1st February 1944. Kittyhawk Mk1 AL205 became the new CV-S. Meanwhile, Sgt Ken Bee went to Hospital and returned from the 7th Army General Hospital on the 4th October 1942.

Rested until he resumed operations on the 26th October 1942, when he took up AL102/CV-R on an armed reconnaissance as fighter cover for bomb armed No 450Sqn RAAF Kittyhawks during the morning.



That afternoon, he took off again, this time in EV318/ CV-Y on a close escort of bombers to bomb Trucks and Panzers of the Afrika Corp. The following day he flew AK995/CV-R (which later was transferred to Turkish Air Force on the 1st May 1943, as #3712, <u>as above</u>) on a similar mission.

He continued operations with No 3 Squadron when he converted to Kittyhawk MkIIs, however fate finally had caught up with him on the 1530hrs 21st December 1942, when he was part of a six aircraft formation on a long range reconnaissance over enemy territory, when the formation sighted and attacked a large number of enemy aircraft that was dispersed on a landing ground near Tripoli.

He was flying Kittyhawk MkII FL286 CV-S

On his last attack, Ken Bee's aircraft was set on fire by the ground defences and was seen crashing end over end near this landing ground. An Axis Ambulance was seen to arrive to extract the pilot but he had been killed outright. He was buried with full military honours two kilometres away at the Elskir Cemetery, City of Hom, in now what is Libya, North Africa. He would be later re-interned at Tripoli Military Cemetery, at Plot 12 Row A, Grave 14.

Sources:

- RAAF Squadron narrative reports 3 Squadron narratives Combat reports 1940-1945
- Commanding officers' reports monthly reports and unit history sheets squadron 3
- Number 3 Squadron Jul 25 Aug 43
- Squadron Code Letters for AK995/AK776/FL286 ex Buz
- Colour advice per Squadron Codes and Letters ex Buz



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Editor Exit Comment:

It has been a pleasurable experience in bringing this issue to you all.

I'd like to thank Shep for his three articles, David Vincent (Noted Author) and of course, John Bennett, also a noted author and illustrator in their association with this Newsletter.

If you wish to submit any articles the style and print parameters of the article you should adhere to are as follows:

Article Standards Mk2A
A4 with Narrow Margin
Indent Right 0.00 Left 0.00
Spacing Before 0.00 After 0.00
Full Justification
Pics Centre Justification
Normal writing Calibri (Body) 11pt
Captions Calibri (Bold) 10pt
Image source Calibri 9pt Italics
End Notes Calibri 10pt
Page numbering Bottom Ascent Bar 1

Headings and topics can range between 14/16/18/ up to 24pt either bold **Please be free to parachute in a article!**



End Notes:

A take on a Jake! Gordon R Birkett @2020

¹ Note: on 22/01/1943, same aircraft and crew sighted 2 miles south of lowest point of Wessel Islands at 033/22z sighted columns of smoke in ball fashion on approach)

² Source of picture is: http://www.ntlexhibit.nt.gov.au/exhibits/show/unit/unit/item/1419

³ en.wikipedia.org/wiki/No._7_Squadron_RAAF

During these operations, the squadron's aircraft damaged another Japanese submarine, **shot down two Japanese Aichi E13A "Jake" seaplanes and damaged several others.** The squadron was based at Horn Island, Queensland, from April to October 1944, when it moved to Tadji, Papua New Guinea. **The A50 History count is "Three/3/III" not Two/2/II!! GRB**

⁴ Inquiry by wife re fate of the Reverend Leonard Kentish P15

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5

Former RAAF Aerodromes: Along or near the Stuart Highway Part 1; Introduction by Shep

⁶ RAAF and Civil Official Lists of Aerodromes, Emergency Landing Grounds and Flying Boat Bases Australia and Territories. NAA: A9716, 1555. ⁷ RAAF Directorate of Works and Buildings, Engineer Intelligence Section; Airfield Data. NAA: A9716, 7. ⁸ Ibid, n6. ⁹ Ibid, n7. ¹⁰ Ibid. ¹¹ North Western Area – Aerodromes and Landing Strips (Existing and Projected) Named After RAAF & USAAC Pilots Killed or Missing During this War; NAA: A9695, 18. ¹² RAAF & US Landing Grounds, 1st Issue, corrected to 5.7.43, RAAF Selections and Landing Grounds, Northern Territory, ibid, n1. ¹³ Ibid, n7. ¹⁴ Ibid. ¹⁵ Ibid, n12. ¹⁶ Memorandum "Lease:Lend Expenditure – North Western Area" dated 23/MAR/44 in RAAF Emergency Landing Ground Pine Creek NT. NAA: A705, 7/1/1578. ¹⁷ Ibid, n11. ¹⁸ Ibid, n12. ¹⁹ RAAF Landing Ground Strauss, Drawing No. 42/43/1013[D?] in RAAF and USAAF Airfields in Australia and SWPA during World War Two Part I; AWM R940.544994 R111 Pt.1. ²⁰ Memorandum "Lease:Lend Expenditure – North Western Area" dated 23/MAR/44 in RAAF Emergency Landing Ground Pine Creek NT. NAA: A705, 7/1/1578. ²¹ Ibid, n12. ²² Ibid, n7 ²³ Ibid. ²⁴ Ibid. ²⁵ Ibid, n20. ²⁶ Ibid, n11. ²⁷ Ibid, n12. ²⁸ Ibid, n12 ²⁹ RAAF Landing Ground Livingstone, Drawing Number 42/43/2334E. NAA: E380, 42/43/2334E. ³⁰ Ibid, n7. ³¹ Ibid, n24. ³² Ibid, n7. ³³ Ibid, n12. ³⁴ Landing Strips – North Western Area – Named After RAAF Aircrew Lost; NAA A9695, 14. 35 Ibid. ³⁶ Ibid, n6.. ³⁷ Airfield Data Sheet 819C in RAAF Directorate of Works and Buildings, Engineer Intelligence Section at Riding (36Miles) NT. NAA: A9716, 1163. ³⁸ Ibid, n11. ³⁹ Ibid, n34. ⁴⁰ North Western Area – Aerodromes – Finished, Started and Proposed; NAA A9695, 17.

⁴¹ Ibid, n6.

RAAF WWII IN COLOUR A series of RAAF aircraft in WWII –Seagull V and Walrus. John Bennett 2020

⁴² The Imperial Gift Book, Banner Books, Canberra, 1996. J Bennett,

⁴³ C F Andrews & E B Morgan, *Supermarine Aircraft since 1914*, Putnam, London, 1989, p.142.

⁴⁴ AM Sir Richard Williams, *These Are Facts*, AWM, Canberra, 1977, p.209.

⁴⁵ Andrews & Morgan, p.142.

⁴⁶ C D Coulthard-Clark, *The Third Brother*, Allen & Unwin, Sydney, 1991, p.181.

⁴⁷ Andrews & Morgan, p.142.

⁴⁸ N-1 was a UK 'Class B' registration, the N-series being reserved for the Supermarine Aviation Works (Vickers) Ltd. **N-1** having flown in JUN 1933, the following month was re-registered **N-2**; Andrews & Morgan, p.381.

⁴⁹ Andrews & Morgan, p.143.

⁵⁰ Williams, p.211.

⁵¹ Coulthard-Clark, p.179.

⁵² Williams, p.210.

⁵³ A2-1 was delivered to HMAS *Australia*, which had been at the Spithead Fleet Review on 16 JUL 1935 for King George V's Silver Jubilee.

⁵⁴ Andrews & Morgan, p.146.

⁵⁵ D Gillison, *RAAF 1939-1942*, AWM, Canberra, 1962, p.39.

⁵⁶ Andrews & Morgan, p.147.

⁵⁷ Andrews & Morgan, p.145. There were apparently two displays in the last week of JUN 1935, the RAF Hendon flying display on 26 JUN and the Society of British Aircraft Constructors (SBAC) Show on 30 JUN. It is presumed A2-1 was shown at both.

⁵⁸ A W Hall & R Sturtivant, *Supermarine Walrus*, Warpaint Book Series No.39, Luton, 2004, p.7. This uniqueness was true until helicopters and VSTOL aircraft.

⁵⁹ adf-serials A2 Supermarine Seagull V/Walrus: <u>http://www.adf-serials.com.au/2a2.htm</u>

⁶⁰ Andrews & Morgan, p.155, p.360.

⁶¹ 9SQN A.50 records several Seagulls receiving the more powerful engine. 10 APR 1941 "A2-9 flown from Rathmines to Rose Bay. This aircraft had installed a Pegasus IIM2 engine which was replaced by *Hobart's* crew for Pegasus VI. Engine received from 2 Supply *[Stores]* Depot Waterloo." 5 JUN 1941 "A2-1 with Pegasus VI engine allotted *Manoora* to replace A2-5."

⁶² Hall & Sturtivant, p.9.

⁶³ Andrews & Morgan, p.144; Hall & Sturtivant, p.11.

⁶⁴ Contract 534422/36, Andrews & Morgan, p.360.

⁶⁵ Andrews & Morgan, pp.149-150.

⁶⁶ These 38 aircraft are normally reported as "37", the problem being that the E/E.88 for Walrus L2327 was missing from RAAF records; sufficient documentation exists to reconstruct its history with the RAAF in 1942.

⁶⁷ N M Parnell & C A Lynch, Australian Air Force since 1911, Reed, Sydney, 1976, p.68.

⁶⁸ http://adf-serials.com.au/newsletter/ADF%20Telegraph%202019%20Autumn.pdf

⁶⁹ NAA A663 O22/1/154 follows this requirement for two aircraft in JUN 1940 to be purchased on **O.I.799** from RAF Far East Command in Singapore, but the pricing was not resolved until FEB 1941.

⁷⁰ NAA A2408 9/5, 268 of 26 JUN 1942, and 13 OCT 1942, 279 of 2 MAR 1943 **O.I.1165** may cover this purchase.

⁷¹ These are assessed as being loan aircraft as the E/E.88 Aircraft Status Cards for both Z1804/Z1811 are annotated in DEC 1949 as: "Outward loan ledger to be cleared by Stores Adjustment Voucher (SAV)".

⁷² NAA A2408 9/5, **O.I.1255** of 25 MAY 1943 may cover this purchase.

⁷³ Supermarine Aircraft (Andrews & Morgan, p.360) lists Walrus production. 100 aircraft built on this contract were serialled HD804-837 and HD851-878 (including 7 RAAF aircraft), and HD899-936, of which 70 were the Mk.I; included in this list of 100 were 30 Mk.II aircraft serialled HD878, HD902-908, HD910, HD912, HD914-915, HD917-918, HD920-923, and HD925-936 (none of which for RAAF).

⁷⁴ <u>https://www.navy.gov.au</u>

⁷⁵ G W R Nicholl, *Supermarine Walrus*, Foulis & Co, London, 1966, p.14.

⁷⁶ Hall & Sturtivant, p.19.

⁷⁷ Andrews & Morgan, p.147.

⁷⁸ Scale Aircraft Modeller, Vol 40 Issue 6, Guideline Publications, Bletchley, AUG 2018, p.18.

⁷⁹ <u>Mensuration</u>: The sizes of some aircraft markings are often provided here from mensuration, checked against surviving policy documents. Digital imagery, with large monitors, now makes it easier to accurately measure markings. For calibration, known dimensions are used and extrapolated – for instance, aircraft serial numbers are generally 8" high and 5" wide (Imperial measures used, as that was the standard of the day), and some Tech Orders provide roundel and fin flash dimensions. Generally, squadron code letters vary, and no laid down standards survive. Such mensuration is accurate if the camera lens is directly perpendicular and horizontal to a flat subject. But perspective is further affected by fuselage curvature, or other shaped panels, and there can be camera lens imperfections. So while an imperfect art, in general sizes of aircraft markings can be provided inside a 2" (50mm) margin of error.

⁸⁰ Folding wings had been built into the Seagull V and Walrus. Because of the single-bay wing construction, auxiliary jury struts for additional support (normally obvious on the leading edge beside the engine, and permanently fitted to the Walrus) had to be temporarily fitted before the Seagull's wings were folded back. Nicholl, p.29; Hall & Sturtivant, p.4.

⁸¹ P Lucas, *Camouflage & Markings No.2*, Scale Aircraft Monographs, Guideline, Luton, Beds, 2000, p.79. The MAP 33B stores reference series are stock numbers with the last three digits identifying the size of the paint can – so on the RAF Directorate of Technical Development (DTD) 314 scale, Dark Slate Grey 33B/275 was for a half-gallon can of varnish, 33B/276 a one-gallon can, and 33B/277 a five-gallon container. The DTD specifications for compliance were DTD 314 (matt pigmented oil varnishes), DTD 308 (matt cellulose finish), or DTD 83A (aeroplane doping schemes); *Aircraft Design Memorandum No.332 (Issue 3)*, CD44/41, para.4, of 15 NOV 1940, filed on RAAFHQ 150/4/852(12).

⁸² D C Teague, *Strike First They Shall Not Pass Unseen*, Baron Jay, Plymouth, 1982, p.92; J Herington, *Air War Against Germany & Italy 1939-43*, AWM, Canberra, 1962, p.23.

⁸⁴ 10SQN A.50 Unit History, 18 JUN 1940.

⁸⁵ Imperial Gift, p.196. Like all the Bruce Robertson roundel designations, these were issued retrospectively in the 1950s, and the "A2" designator applied to Type-A roundels with either a narrow outer White or Yellow ring.

⁸⁶ I K Baker, Aviation History Colouring Book 4, Roundels, Tail Stripes, Melbourne Vic, 1995, p.4; RAAFHQ DTS 9/1/442 of 12 SEP 1939.

⁸⁷ <u>https://www.rafmuseum.org.uk/documents/collections/73-A-426-Seagull-V-A2-4-(Walrus).pdf</u>

⁸⁸ For example, official references for roundels were Type I, Type II, Type III, etc (which related to the postwar invented 'nonofficial' references B, C, C1 respectively).

⁸⁹ Lucas, p.13.

⁹⁰ The *Yellow* was introduced to the RAF roundel on 1 MAY 1940; P Lucas, *Camouflage & Markings No.2*, Scale Aircraft Monographs, Guideline Pubs, Luton, 2000, p.45.The RAAF policy AGI C.11 of SEP 1939 used AMO A.154 as a main reference, which introduces the Type-B roundel to fuselages (which would become the RAAF "M.1" roundel) in 1939; AMO A.154/39 of 27 APR 1939, cited in J Tanner, *British Aviation Colours of World War Two*, Arms and Armour Press, London, 1986, p.1. The RAAF revised AGI C.11 policy of OCT 1940 introduced the outer *Yellow* ring to the "M.2" as the "M.3" roundel, and the tri-colour fin flash as the "M.4" marking. *Yellow* shows as a light colour on panchromatic film, but as a dark colour on orthochromatic. ⁹¹ RAAFHQ DTS 9/1/442 of 12 SEP 1939.

⁹² RAF 2:5 type-B wing roundels varied in size with aircraft type, and with some as 25":63", 22":56", 20":50", or 16":40"; Goulding & Jones, Camouflage & Markings 1936-1945, Doubleday, New York, 1971. For the Walrus, this was typically 24":60"

⁹³ The 1940 policy changed the M.1 roundels, in general, back to the M.2 – the only exception was for the Wirraway which retained the M.1 on upper wings. This was mandated by AGI C.11 *Issue 3* (note that *Issue 2* earlier in 1940 has been unavailable); RAAFHQ AGI C.11 *Issue 3*, of 3 OCT 1940, filed on 1/501/329.

⁹⁴ adf-serials Newsletter Vol.9 Issue 3, Spring 2019:

http://adf-gallery.com.au/newsletter/ADF%20Telegraph%202019%20Spring.pdf

⁹⁵ Cited in J Tanner, *British Aviation Colours of WWII*, RAF Museum, Arms & Armour Press, London, 1986, p.1.

⁹⁶ RAAF London advised that Admiralty Air Diagram 1174 applied to the Seagull/Walrus, London AB.2426, 1/501/281(25A) of 4 DEC 1939; AD.1174 was distributed in the RAAF as A.1813, 1/501/281(29A) of 27 FEB 1940.

⁹⁷ Cited in Tanner, p.9.

⁹⁸ P Malone & G Byk, *Understanding RAAF Aircraft Colours*, Red Roo, Melbourne, 1996, p. 27.

⁹⁹ Cited in Archer, p.42.

¹⁰⁰ Cited in Tanner, p.21.

¹⁰¹ Cited in Archer, p.70.

¹⁰² RAAFHQ AMEM D/DTS 1/501/329 SAS 13552 of 8 JUL 1943, specified 32" *Blue* roundel, 12" *White*, i.e. 3:8 (approx 2:5); fin flash 24" (high), 16" wide (8" each colour). If hurriedly repainted, the type-C flash would be asymmetric with 13" *White*, 11" *Blue*.

¹⁰³ In this signal, RAAFHQ pointed out to 1FBRD that "In the case of those Mariner aircraft where painting would prevent the extension of initial corrosion the hulls may be covered with *Seaplane Varnish* ident K3/74...".

¹⁰⁴ Cited Tanner, pp.32-56.

¹⁰⁵ RAAFHQ AGI C No.11 of 22 SEP 1939, filed as 9/1/396(13), and which referred to the RAF AMO A.154.

¹⁰⁶ Navy Office 1821/2/174 of 6 FEB 1940, filed as 1/501/281(27A). This was in response to RAAF Australia House AB.2426 of 4 DEC 1939, filed as 1/501/281(25A); and RAAF Air Board S.A.S. 62, 1/501/281(26A) of 16 JAN 1940.

¹⁰⁷ E/E.88 Aircraft Status Card for L2171.

¹⁰⁸ <u>https://www.rafmuseum.org.uk/documents/collections/73-A-426-Seagull-V-A2-4-(Walrus).pdf</u>

¹⁰⁹ 11SQN signal of 11 JUL 1940, probably RAAFHQ file 9/1/396(20), referring to RAAFHQ query T225 of 10 JUL 1940. The two 11SQN aircraft were apparently A2-8 and A2-12 – they went to Rathmines in JUL 1940 and would have received *TSS* there.

¹¹⁰ RAAF Darwin signal AB23 of 11 JUL 1940, probably RAAFHQ file 9/1/396(20), referring to RAAFHQ query T225 of 10 JUL.

¹¹¹ RAAFHQ S.A.S. 2699 1/501/329(55A), undated but c JUL 1940.

¹¹² I K Baker, Aviation History Colouring Book 69, RAAF Colour Schemes & Markings Part 4b, Queenscliff, 2009, p.6. This reference to "General Reconnaissance – FAA" is probably a clue that it was for **only RN**, and **not RAF**, aircraft.

¹¹³ The four colours came from the Royal Aircraft Establishment (RAE) in DEC 1938 for home-based flying boats, and termed Scheme 'S3', with the Air Diagrams issued in early 1939; Lucas, p.9. This is probably the origin of the RAAF AGI C.11 policy of SEP 1939 for its 'Scheme No.3' and 'S.3' for seaplanes.

¹¹⁴ RAF policy documents are cited in J Tanner, *British Aviation Colours of World War Two*, Arms and Armour Press, London, 1986: the A.P.2656A Vol.I Sect 6 para.30, of OCT 1944 (Tanner, p.38); P Lucas, *Camouflage & Markings No.2*, Scale Aircraft Monographs, Guideline Pubs, Luton, 2000, p.47. However, the **1940** RAF policy AMO A.926/40 (Tanner, p.9), **1941** policy AMO A.30/41 of 9 JAN 1941 (which introduced *Dark Slate Grey*) (Tanner, p.13), and AMO A.513/41 (Tanner, p.16) and of **1942** AMO A.664/42 (Tanner, p.20) do <u>not</u> go into details of the lighter shadowing colours of *TSS*. The detailed references to this scheme

⁸³ <u>http://aircrewremembered.com/bell-john.html</u>

are not made until the major policy A.P.2656A of 1944 – by which time this shadowing has been discontinued by the RAF, but was still in use with the FAA.

¹¹⁵ AMO A.926/40 para.5(iii) of 12 DEC 1940, Tanner p.9.

¹¹⁶ <u>http://www.theworldwars.net/resources/resource.php?r=camo_rafww2#tempsea</u>

¹¹⁷ A.P.970 evidently introduced mirror schemes – referred to as 'handed' for left-hand and right-hand technical diagrams – as standard for RAF camouflage practice. (There is disagreement whether the A-pattern applied to even serial-numbered aircraft on the production line, and B-pattern to odd-numbered aircraft; *Hall & Sturtivant, inside front cover and p.11*. Alternatively, it is suggested that the first aircraft of a particular batch had A-pattern, alternating along the line; *Goulding & Jones, p.2.*) Notwithstanding, from imagery, the **A-pattern was more prevalent**, and by the start of 1941 the B-pattern requirement was dropped; *AHCB#68 pp.16, 19*. Interpretation: From monochrome images, the A-pattern demarcation lines on the Walrus slope forward on the port side (top to bottom); the B-pattern slope aft (see RAFM A2-4 image). This 'forward slope' disruptive pattern was common to Supermarine's more popular product, the Spitfire, which from 14 JAN 1941 was then only painted in A-pattern; *Goulding & Jones, p.18*.

¹¹⁸ Baker, AHCB #69, p.7.

¹¹⁹ AGI No. C.11 Issue 3, of 3 OCT 1940, filed as 9/1/396.

¹²⁰ AGI No. C.11 Issue 4, of 31 AUG OCT 1942, filed as 150/4/852(7A) Standard Finishes and Markings.

¹²¹ Navy Office letter 1821/2/174 of 8 FEB 1940, filled as RAAFHQ 1/501/281(27A).

¹²² RAAFHQ DTS 1/501/281(29A) 27 FEB 1940, which may have pre-empted the missing, unseen AGI C.11 Issue 2, c.JUN 1940.

¹²³ RAAFHQ 1/501/329(38A) *Summary of Camouflage Policy* file, of 1 MAY 1940.

¹²⁴ RAAFHQ letter S.A.S. 2699 1/501/329(55A) undated, apparently mid-1940.

¹²⁵ A.513/41 of 10 JUL 1941, cited in Tanner, pp.14-16.

¹²⁶ AGI No. C.11 Issue 4, of 31 AUG OCT 1942, filed as 150/4/852(7A).

¹²⁷ RAAFHQ 150/4/852 Minute (M.66) from TS.1(F) of 21 AUG 1942.

¹²⁸ RAAF Conversion Design Section, Rose Bay, letter to RAAF 1/501/329(19A) of 16 NOV 1939.

¹²⁹ AHCB #67; on p.15 Baker makes the point that this satiny surface makes the '*camouflage green*' and '*camouflage brown*' boundaries difficult to discern. This is particularly true too with ortho film.

¹³⁰ 3SQN letter to RAAFHQ 2543/27/S of 12 APR 1940; this was approved by RAAFHQ/TS.3 message T.95 of 2 MAY 1940, filed on 62/1/234.

¹³¹ AMO A.926/40 Aircraft Colouring and Recognition Markings, of 12 DEC 1940, cited in Tanner, p.9.

¹³² RAAFHQ letter S.A.S.9984, DTS 368/41, filed as 1/501/329(53A) of 23 DEC 1941. Ian Baker's research indicates the first references to *Foliage Green* and *Earth Brown* were in 1941, previously being BALM *Camouflage Green* and *Camouflage Brown*; AHCB late inclusion to *AHCB #68-69*.

¹³³ RAAFHQ 1/501/281(26A) 16 JAN 1940; Navy Office 1821/2/174 6 FEB 1940, actioned RAAF 1/501/281(27A) 13 FEB 1940.

¹³⁴ RAAFHQ Aircraft General Instruction No. C.11, Issue 3, of 3 OCT 1940, AFHQ file 1/501/329, para.3; G Pentland, RAAF Camouflage & Markings 1939-45 Vol 1, Kookaburra, Melbourne, 1980, p.30.

¹³⁵ AHCB #69, p.6, dates A.D.1174 as MAR 1939.

¹³⁶ Parnell & Lynch, p.92.

¹³⁷ RAAFHQ 1/501/281(26A) 16 JAN 1940; Navy Office 1821/2/174 6 FEB 1940, action by RAAF 1/501/281(27A) 13 FEB 1940.

¹³⁸ B Robertson, *British Military Aircraft Serials 1878-1987*, Midland Counties, Leicester, 1987, p.123.

¹³⁹ 101FLT/5SQN A.50 Unit History, APR 1936-JAN 1939.

¹⁴⁰ Units of the RAAF, A Concise History, Vol.4 Maritime and Transport Units, AGPS, Canberra, 1995, pp.2-3.

¹⁴¹ Hall & Sturtivant, p.19.

¹⁴² 9SQN A.50 Unit History, 15 SEP 1944.

¹⁴³ Email from 'Shep', 30 MAR 2020.

¹⁴⁴ Parnell & Lynch, p.206; J Forsyth, *The DH82A Tiger Moth in Australia*, Skyline, Melbourne, 1995, pp.254-256; *Units of the RAAF, Vol.4*; Sturtivant, pp.163-164.

¹⁴⁵ Caption to AWM image OG2029.

¹⁴⁶ Caption to AWM image P00664.023.

¹⁴⁷ Hall & Sturtivant, p.21.

¹⁴⁸ E/E.88s for A2-16 and A2-17 give fitment date as 24 OCT 1939, A2-19 as 28 OCT 1939, and about the same time for A2-14. Interestingly, A2-13 in NOV 1939 is recorded as 'modified but not fitted' – an early case of *"fitted for, but not with"*. It appears that A2-11 was the very first aircraft modified for TT as early as JUN 1937.

¹⁴⁹ 5CU A.50 Unit History, although renamed on 29 OCT 1943, this is not recorded until 30 NOV 1943.

¹⁵⁰ Units of the RAAF, Vol.4, 5CU, pp.125-127.

¹⁵¹ <u>http://www.adf-gallery.com.au/newsletter/ADF%20Telegraph%202017%20Summer.pdf</u>

¹⁵² Units of the RAAF, Vol.4, 6CU, pp.129-132.

¹⁵³ 6CU A.50 Unit History 1943.

¹⁵⁴ The image was thought to have been in Merauke (Dutch NG), but the background vegetation is no different from Batchelor or the Darwin region, and the image is supposedly by a Dutch photographer (Batchelor had a large NEI population with 18 NEI

SQN). Although this 6CU Walrus could have deployed to Merauke, its deployment has not been recorded; if the image was taken outside NWA (6CU's area of operation), it would be extremely unusual for the movement of one of its aircraft into the operational area of another formation (e.g. NEA) not to have been recorded in the Unit A.50 – which is otherwise quite detailed re out-of-area travel by its other aircraft. Email from 'Shep', 13 MAR 2020.

¹⁵⁵ AMO A.664/42 of 2 JUL 1942, cited in Tanner p.21; repeated in OCT 1944 A.P.2656A Vol 1, Sect 6, Ch.2, Tanner p.49.

¹⁵⁶ 8CU A.50 Unit History, 4 NOV 1943. One 1 R&C SQN Seagull (A2-19) had been lost on 11 SEP 1943 when searching for survivors of Beaufighter A19-142. Parnell & Lynch, p.92.

¹⁵⁷ Units of the RAAF, Vol.4, pp.137-140.

¹⁵⁸ Formation of the RAAF ASR units is covered in No.3 in this series, the Catalina:

http://adf-serials.com.au/newsletter/ADF%20Telegraph%20Vol%2010%20Issue%201%20Autumn%202020%20Final.pdf

¹⁵⁹ The wings, although conventional in construction, incorporated much stronger stainless steel front and rear main spars. Ailerons were of basic metal construction and fabric covered, while the rest of the wing was plywood and fabric covered. The Walrus had no flaps but the inboard trailing edge section of each lower wing was designed to fold downwards and forward to allow the wing to be folded back. With the tail unit, the fin was built integrally to the hull, the tailplanes were externally braced, and the rudder was wooden framed. Hall & Sturtivant, p.10; Andrews & Morgan, p.144.

¹⁶⁰ Units of the RAAF, Vol.4, pp.137-140.

¹⁶¹ AWM image OG2441.

¹⁶² Bristol/DAP Beaufighter Spring 2019, <u>http://adf-serials.com.au/newsletter/ADF%20Telegraph%202019%20Spring.pdf</u>

¹⁶³ Pentland, Vol.2 p.118.

¹⁶⁴ Andrews & Morgan, p.153.

¹⁶⁵ <u>https://www.rafmuseum.org.uk/documents/collections/73-A-426-Seagull-V-A2-4-(Walrus).pdf</u>

¹⁶⁶ B Pattison, *The Kingfisher in the Antipodes*, Red Roo, Melbourne, 1998, p.41.

¹⁶⁷ <u>https://www.fleetairarm.com/exhibit/Supermarine-Walrus-L2301/1-29-9.aspx</u>

¹⁶⁸ https://www.goodall.com.au/warbirds-directory-v6/vickerssupermarine.pdf

¹⁶⁹ Andrews & Morgan, p.360.

¹⁷⁰ RCAF History Forum, 4 MAR 2013: <u>http://www.avcanada.ca/forums2/viewtopic.php?t=84947&start=325</u>

¹⁷¹ Nicholl, p.182.

¹⁷² Andrews & Morgan, p.145.

¹⁷³http://www.seawings.co.uk/images/manuals/Walrus%20Manual/Supermarine%20Walrus%20Mk.I%20&%20II%20Manual-(Redu-v5).pdf

How to Read RAAF Historical Records: Aircraft Status Cards by Shep

¹⁷⁴ AFO 19/A/9 Aircraft and Aero Engines – Serviceability Reports, para 3, Form of Signal, in Repair of Aircraft on Site of Crash; NAA: A705, 9/1/776.

¹⁷⁵ Headquarters North Western Area Standing Orders, Section 4, Signals, dated 10th June, 1942, in North Western Area Routine Orders and Confidential Orders; NAA: AA1966/5, 134.