



Wings Over the Bay

Welcome to the newsletter of the Bay of Plenty Branch, NZ Division, RAeS for December 2019.

Recap December Branch Meeting

Our final meeting for the year was a two-speaker presentation titled: 'The KAHU Jet'. As this meeting was held in the Boeing Room, at Classic Flyers, Skyhawk NZ6201 had been appropriately positioned adjacent to the balcony where you could almost touch it. By coincidence, the opening slide included a photo of NZ6201 at in its original 75 Sqn livery.



75 Squadron A4K NZ6201 at Clark AFB, The Philippines in 1982 - USAF Photo by TSgt Craft

Wally Gee chaired the well attended meeting, with nearing 30 present. In his intro, he posed questions on the origins of the Douglas Dauntless and the Douglas A4B Skyhawk, designed by the same Douglas military aircraft designer, Ed Heinemann.

Former RNZAF Engineer, Des Underwood led off his presentation with the scope and timeline of Project KAHU update. He explained the systems integration was completed by the RNZAF Project team working with Smiths Industries in the USA. The RNZAF took on the role of prototype developer at Woodbourne working with a contractor team to complete the necessary design work, make the new parts and wiring harnesses at No 1 Repair Depot. The prototype conversions NZ6254 and NZ6205 were completed in 1988, to validate the design and turn them into the first KAHU Jets.

Des explained his initial role with KAHU involved overseeing the Skyhawk wing refurbishment which was undertaken by the by 1 RD at Woodbourne a mix of RNZAF and contractor working party from SAFE Air. This was an important project pre-

requisite to deliver KAHU Jets with zero-life wings after an extensive rework to replace all three wing spars, the lower skin and reinstate the integral wing fuel tank.

On promotion to Squadron Leader, Des was appointed OC Airframe Recoditioning Squadron and became responsible for the prototype KAHU conversions of TA4K NZ6254 and A4K NZ6205. The prototype design and installation allowed the new hardware and wiring harnesses to be drawn up to allow manufacture by Pacific Aerospace Corporation in Hamilton from approved RNZAF drawings.

Other photographs showed the external changes of the KAHU Jet and the cockpit. Des described the challenge to develop a new instrument panel strong enough to support the hefty Ferranti Head Up Display. He said, it was made of machined parts.

The 5min video [A-4K Skyhawk: Project Kahu Begins \(1987\) – Today Tonight Show](#) included a much younger Des who was interviewed for his role in the Project. A comment after the address, noted his voice sounded the same, to which he responded: "I suppose it would!"



Des Underwood outlines his part in the Project

Des reviewed the production process completed by SAFE Air at Woodbourne supported by 1 RD which was responsible for induction, and installation of engines and other systems un-affected by the upgrade ready for acceptance test flights. The timeline showed the 20 strong fleet of T/A-4K Skyhawks was completed in three years.

Des concluded his address by noting that 30years on, of the eight acquired by Draken International in 2012, seven KAHU Jets remain in service in the USA.

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Operational Perspective. John Mathewson was introduced by Des, as an RNZAF contemporary whom he first met at Ohakea in 1978 when JC was an A4K Skyhawk pilot on 75 Squadron. He later became OC 2 Squadron RNZAF before moving to Air NZ where is currently a 777 Captain. Together with Craig Mossman, JC flies the L-39 Albatros with Fighter Jets NZ to give others the opportunity to fly a fighter jet in Tauranga.

JC spoke from a list of bullet points, starting by tracing the impact of the transition from 20mm cannons, rockets and gravity munitions of the original T/A4K to the KAHU Jet with digital nav-attack system integrated with an interfaced guided missile, laser guided munitions and Electronic Counter Measures (ECM) detector with chaff and flares. The 20mm cannons were retained and enhanced with the gunsight part of the HUD. One major change was the mission planning computer providing the means to upload mission data via a hand-held data transfer module. He also said video camera and footage from different aircraft involved the same air combat sequence could be used to provide different perspectives of the action which was useful providing an operational record, as well as for training.



JC Mathewson in the Boeing Room

JC said he had been assigned as test pilot supporting the production phase as aircraft exited the upgrade. He had another role to verify the accuracy of the nav-attack system to feedback results to allow the software to be refined.

He then spoke about his role as OC 2 Squadron which had been assigned the role as KAHU OCU as well as new strike pilot induction and training. He

mentioned the need to revise operating tactics for the 'new' digital jet in conjunction with Group Captain Ian Gore.

He spoke about the tactics adopted for the KAHU Jet to use its new suite of ECM to provide threat warning for missile or radar warning and when to use chaff and flares to foil an adversary. He then used the white board to describe how a typical four-ship mock anti-shipping attack was planned from four different directions to provide the RAN with air defence training for its surface fleet.



Skyhawk NZ6201 and HMAS Adelaide

Photo via Dave Masterson

JC went on to tell the story of a KAHU Jet tangled and successfully evaded a supersonic RAF F.1 Tornado ADV interceptor during an air defence exercise in Malaysia which he commented to the RAF Deployment Commander that: "the A4 had been flown by the most junior pilot on the Squadron." After his interesting outline, he introduced a 15min video titled "Douglas" which featured significant air to air sequences as well as video camera recorded 'through the HUD'.

Following the video everyone was left in no doubt just how effective the update had been. JC explained the combination of a modern Nav-attack system with ECM, guided weapons and the aircrafts small size had transformed the KAHU Jet into a valuable asset of the RNZAF Air Combat Force.

After the address, a number of questions were answered before Wally Gee moved a vote of thanks meeting. A good number stayed on for a chat over a glass of bubbly or a cuppa and Christmas nibbles as an apt finale to the Branch's activities for 2019.

Photos by Mike Feisst unless listed otherwise

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The following report appeared in the Hamilton Branch December newsletter:

Bay of Plenty, 6 Dec meeting: Warwick and Gina attended the BOP meeting at Tauranga last Friday where John Mathewson (JC) former pilot and Des Underwood, former Engineer, gave us a very good presentation on the A-4 Skyhawk - Project Kahu, which was well received by all those present. Project Kahu was another major milestone in NZ which brought work, respect and prestige to both the civil aviation and defence industries.

Branches News

Auckland Branch

Approved reproduction from Hamilton Branch, December Newsletter

CLIFF TAIT: On 28 Nov, Des Underwood and I travelled to Auckland for their Branch meeting. This was a special occasion, where Cliff Tait was to be formally presented with his Meritorious Service Award. It was followed by a DVD Cliff had compiled news clips of a number of TVONE News clips of some of his exploits. These set the scene.

Before the meeting we had a few minutes to introduce ourselves to him, his wife Joyce and son, Cliff Jnr. He shared some experiences with us and his recollection of the details was astonishing. His story is something to be treasured and shared with young and old alike as an inspiration for current and future generations. It was a privilege for us both.

Cliff's achievements would be difficult to imagine if you have not been there yourself, and I am one of those people. I did get an inkling of some of the trials and tribulations one may face during ferry flights when I worked for PAC in the 1980s-90s. I was lucky enough to have met some of the ferry pilots of the time and worked on a number of aircraft conversions. However, some of the best insights were provided by the written reports from the ferry pilots and I was lucky to have read some of them. One particular recollection comes to mind where the pilot describes being airborne for 17 hours ferrying a Fletcher. Imagine that for a second, with no info-entertainment, no air-conditioning, no meal options, no recliner seat, and, you are in control. Perhaps QANTAS and AIRNZ could get some advice from these extraordinary individuals on how to keep yourself busy during long flights.

Cliff recounted a story; during a ferry flight where, at night, he went to operate one of the HF radios, this was one of the old variety models, the type known to release the odd spark or two. By the light of the radio he noted liquid on the cockpit floor

which he quickly identified as fuel. He switched the radio off to avoid a potential explosion. He tracked the source of the fuel, which was the connector to the hopper, something he couldn't do anything about whilst flying the aircraft. Realising the magnitude of his predicament, he searched for his tool box and pulled out a screw driver which he then pointed to the cockpit floor and proceeded to make a hole in the aircraft skin to allow the fuel to drain out. This was obviously only a partial solution, as by now his flight time was severely compromised, so he then proceeded to identify a suitable place to land.

You could say that this was a way of keeping himself busy during a long flight, personally, and probably like most of us, I would prefer a good book and a comfortable seat with the odd drink or two. Hats off to Cliff and the other NZ ferry pilots.



Cliff (now 90) admires his medal presented by Ade Morris, Auckland Branch Chairman



Cliff with his wife Joyce recognising the part she played – they have been together 71 years

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Book Review

Approved reproduction from Page 111/112 -
The Aero Historian, December 2019

Brian Lockstone

Courage Aflame, Sergeant James Ward VC
Bob Moore
Fisher Print, Palmerston North, 2019

For some unfathomable reason, we know really little about Sergeant James Allen Ward, awarded the Victoria Cross for his exploits as second pilot of a Vickers Wellington Ic of 75 (New Zealand) Squadron, RAF, over the Dutch coast on the night of 8/9 July 1941. Ward was New Zealand's first "VC" of the Second World War and tragically, as with many of his Bomber Command colleagues, had but a short life losing his life in another Wellington on the night of 15/16 September that year.

However, Bob Moore has come to the rescue with this fine biography of more than 300 pages which explores his short but rich life in exquisite detail, from the early days of his family, through boyhood then commencing training to be a school teacher before the Second World War intervened.

He was an avid aero modeller and seemed logical with the outbreak of war he would join the Royal New Zealand Air Force. We read of his basic training then the progression through the pilot training system which resulted in his qualifying as an RNZAF service pilot in January 1941.

The author skilfully weaves the story of the RNZAF through these pages. This is important as the air force had become a separate service only in 1937 after the Labour government agreed to implement the recommendations of (then) Wing Commander R A Cochrane.

This is as important as much as for the lay reader as those who have read widely about service flying. We share his experiences of the elementary flying training school, then the service flying training schools which transformed the airman with basic flying schools into someone capable of stepping into an operational squadron.

There is much absorbing detail about the early days of 75 (New Zealand) Squadron which started life as the New Zealand Squadron before acquiring its RAF "number plate". Accordingly the names of those who would become prominent during the war and later appear on every other page.

We share his experiences of life in wartime Britain, of how important was his brother Harold, then

engaged on important wartime work for the government. The events of the night of 8 July 1941 are covered in considerable detail but the author has been careful to avoid embellishment.

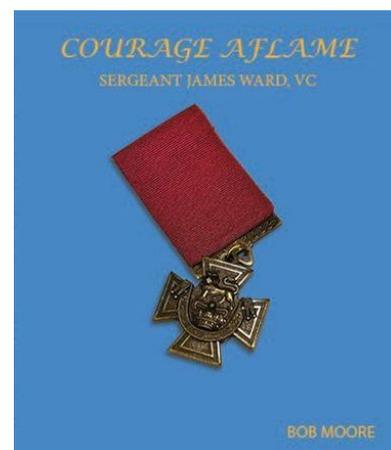
After the award of his Victoria Cross was announced, Sgt Ward had to endure the public adoration and media attention (limited to the papers and the BBC radio) before he could return to service. Sadly, he lost his life only about a week before he would have appeared at Buckingham Palace to receive his honour.

The author has expended much effort to record what happened postwar, from the RAF team which located his remains in a Hamburg cemetery, to the range of memorials and remembrances involving his family, school and in particular the RNZAF. After the-war the RAF retired the "75" squadron number plate and transferred it to the RNZAF. It is fitting therefore that retired Air Commodore Graeme Goldsmith, a fellow Wanganuiian, and former commanding officer of 75 Squadron, contributed a cogent and sensible foreword.

There are extensive appendices. There is a minor typo in the specifications of the Wellington bomber which is described as a Mk II. However, this version had Rolls Royce Merlins and not radial engines. Some might not like how wartime photographs have been artificially coloured.

Retired RNZAF senior engineering officer Des Underwood played a significant role in completing this fine volume and his handwork is clearly in evidence. This, surely, is the Book Of The Year. A valuable, essential addition to anyone's library.

Note: this review copy was kindly provided by Des Underwood.



Copies of 'Courage Aflame' are available to Branch members at \$60 plus \$10 postage via email: desunderwood@gmail.com

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Branch Activities - 2020

Friday 31 January 2020 – AGM & Branch BBQ – at Tauranga Gliding Clubrooms, Seawind Lane, off Jean Batten Dr - starting at 6.00pm – To help with BBQ planning, registrations please to - desunderwood@gmail.com

NOTE - NO MEETING IN FEBRUARY – as a number of committee members will be out of town

Friday 6 March – Branch Meeting – at Classic Flyers – 5.00 join the Happy Hour – meeting to start at 6.00pm - details to follow

Mon 2nd March - Tiger Moth Safari

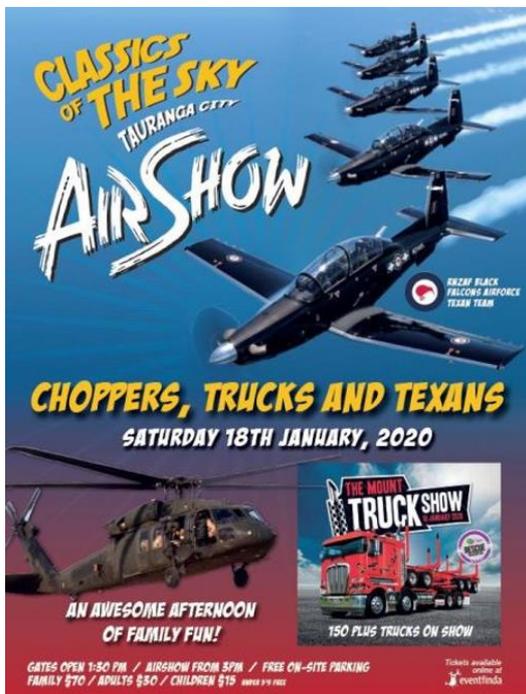
- brief lunch stop in TG before departing to OP



Photograph © John King

Aviation Events 2020

Sat 18th January – TCAS 2020



>> Lookout for a special RNZAF display – Mount Main Beach - Friday evening!

Sat/Sun 11th/12th April 2020 – Warbirds over Wanaka - Airshow 2020



Bay of Plenty Branch Committee

Des Underwood, MRaES, Chairman – 0274524767- desunderwood@gmail.com

Mike Feisst – Treasurer/Membership mikefeisst@xtra.co.nz

Jack Best - jackbest953@gmail.com

Wally Gee - geefam@xtra.co.nz

Graham Lister - grumpa356@gmail.com

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