

Indonesian aviation 1945 -1950

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November 2005

Introduction

The concept of an Indonesia independent from the Dutch colonial rule had been 'brewing' since the 1920s and the collapse of the Dutch colonial administrations in 1942 and the sympathetic Japanese attitudes during the next few years, gave a further impetus to the drive towards independence. In the aftermath of the Japanese surrender in August 1945, and the resulting political vacuum, Indonesia seized the opportunity and proclaimed itself as an independent republic on 17 August 1945.

Separately the Dutch government, when in exile in the United Kingdom, had developed a time table leading towards some form of independence for Indonesia but in a framework of some union with the Netherlands, not dissimilar to the British Commonwealth framework. In late 1945, however, the top priority for the returning Dutch military forces was, apart from the logistics of re-establishing themselves, the safeguarding of internees from the Japanese camps.

In the meantime, the Indonesian independence movement had established a power base in Yogyakarta from where it spread its influence over the other areas.

As the republic was not recognised by The Netherlands until 1949, the situation resulted in parallel aviation activities in, what was considered, the Netherlands East Indies as well as Indonesia, depending on the view taken.

The political parallel situation manifested itself in civilian aviation – where the NEI aircraft were registered as PK-xxx and Indonesian aircraft as RI-xxx – as well as in military aviation with the Republic's air force, Angkatan Udara Republik Indonesia (AURI) operating opposite the Militaire Luchtvaart – Koninklijk Nederlands Indische Leger (ML-KNIL), the Koninklijke Luchtmacht (KLu) and the Marine Luchtvaart Dienst (MLD).

The peace of 1950 merged the two parallel developments, involving the transfer of aircraft from the abolished ML-KNIL as well as the KLu and MLD, to the AURI, as well as civilian aircraft of the Koninklijke Luchtvaart Maatschappij (Interinsulair Bedrijf) (KLM-IIB) to the newly established Garuda airline. In addition there was the beginning of an indigenous Indonesian aircraft industry.

This paper is based on a combination of original research and the application of other reference sources. It is acknowledged that there is a degree of risk involved in using reference sources but, the passing of time as well as the absence or inaccessibility of some original documentation, make the use of reference sources an essential feature. Some of the sources, being based on primary documentary sources, are solid and reliable (although even then some of these may contain conflicting information) whilst other sources may have started off as honest 'assumptions' which over time have been misquoted as 'facts'.

However, the ability to compare, combine and supplement information, may, in selected cases, lead towards a cautious solution to a previously identified gap in our historical knowledge.

But there remain some significant gaps in our knowledge on the subject and one of the purposes of publishing this paper is to draw out additional information and photos and/or corrections, as well as comments. Such photos, additions, corrections and comments are invited and should be forwarded to josheyman@hotmail.com.

Political Background

To fully understand the actions which affected the aviation situation and aircraft movements, it is necessary to have some basic knowledge of the historical developments that took place during this period.

Following the capitulation of the Japanese on 15 August 1945 and the proclamation of the Indonesian Republic by Sukarno on 17 August 1945, it was not until 30 September 1945 that the first allied forces arrived in Jakarta (then called Batavia)^a, with Dutch troops arriving later.

The situation resulted in a situation where the Dutch, in late 1945 controlled only a small corridor from Batavia to Bogor and Bandung as well as small areas around Semarang, Surabaya, all on Java, and small areas around Palembang, Padang and Medan, on Sumatra. The remainder was controlled by the new republic which had its capital in Yogyakarta. Territories outside Java and Sumatra were not involved in the conflict and remained largely under the control of the Dutch with a degree of local involvement.

As the Dutch government had planned some form of independence within a structure not dissimilar to the British Commonwealth. It was aiming towards a federation of Indonesian states. Also the Dutch, who saw the Indonesian republic as rebels, was anxious to secure peace for the population, for which it used military force.

The Dutch undertook two so called Police Actions. The first was from 20 July 1947 to 5 August 1947 and the main objectives of this action was to enhance the economic viability of the Dutch occupied territory which had ground to a halt and was beginning to create food shortages which could lead to a famine. Whilst this action solved the economic aspects – more agricultural land was now under Dutch control -, politically the action was a failure as the Republican government was still in Yogyakarta and the Republican army was not defeated.

The United Nations intervened and established a Committee of Good Offices on the Indonesian Question. One of the first acts of the Committee was to organise a series of discussion on board of the US naval ship USS Renville, leading to the signing of the Renville agreement on 17 January 1948. This agreement still incorporated the concept of a federated state, which was not accepted by the Republican government.

The Dutch undertook a second Police Action, commencing on 18 December 1948 with the objective of capturing Yogyakarta and the imprisonment of the Indonesian government, including Soekarno. Whilst the objectives were achieved, the backlash within Indonesia as well as abroad, forced the Dutch to accept a proposed ceasefire, which took place on 5 January 1949. Further discussions led to agreement between the Dutch and from 23 August to 2 November 1949 a Round Table Conference in The Hague, the Netherlands (referred to as Konferensi Meja Bundar by the Indonesians) works out the details of the transfer of sovereignty and the formal transfer of power to the Republik Indonesia Serikat, comprising 15 states, on 27 December 1949. However, on 17 August 1950 the unified Republik Indonesia was proclaimed, thereby terminating the federation.

Indonesian military aviation

To describe the early days of the Indonesian air force two separate sources were available: publications of the TNI-AU which describe that period, as well as a (incomplete) collection of Dutch military intelligence reports from the period concerned which were recently recovered in the Netherlands. The Dutch reports cover the period from early February 1946 to late 1947.

^a With some obvious exceptions, place names mentioned in this article have been represented by their current name and, where deemed appropriate, some indication as to their location has been given.

Obviously the identification of aircraft, for which the Dutch used the code names used by the allies during the war, was not always correct.

In 1945 the Indonesian government established the Jawatan Penerbangan as the first aviation organisation of the Tentara Keamanan Rakyat (Office of Aviation of the People's Security Army). On 9 April 1946 this was absorbed into the newly formed Angkatan Udara Republik Indonesia (AURI). At this time the AURI lacked any formal structure and should be seen as a number of independently operating groups which overtime came under central control¹.

Following the war the new Indonesian forces succeeded to obtain a number of Japanese aircraft that had been abandoned. A September 1945 RAF report based on photo interpretation and other sources estimates that 121 serviceable aircraft and 74 unserviceable aircraft have been left behind by the Japanese on a number of airfields, with the heaviest concentrations on Maguwo, near Yogyakarta (68 aircraft), Singosari, near Malang (63 aircraft) and Kalijati, in West Java (38 aircraft)².

However, the new air force had hardly any pilots to fly these aircraft. The few pilots that were available included officers such as Abdulrachman Saleh (a medical doctor who also had flying experience as a private pilot), Halim Perdanakusuma (who was before the war with the MLD and received flight training with the RAF), Agustinus Adisutjipto (who before the war had been trained as an pilot-observer by the ML-KNIL) and Iswahjudi (who had trained with the pre-war Vrijwilligers Vlieger Corps and escaped to Australia at the start of the war). R. Suryadi Suryadarma, the first commander of the Indonesian air force, had been trained before the war as an observer. There have also been references to Japanese and Australian pilots which flew with Indonesian forces at various times.

On 15 November 1945 a flying school was established at Maguwo with Adisutjipto as the chief instructor. The first instake of 31 students included 11 experience pilots and 20 who had limited experience. The school also trained technical personnel and para troopers³. In addition, on 12 May 1946 a call was made to Indonesians who had received pilot training abroad, to join the AURI⁴.

As early as October and November 1945 Japanese aircraft with Indonesian markings were seen flying over Malang⁵. Further activities were reported in February 1946, when Indonesian aircraft had been seen in bombing aim practices on the bombing range at Babekan, about 20 km from Cilacap in Central Java. A further report dates from 30 March 1946 when aircraft of the RAF detected six to nine aircraft being serviced at Singosari, near Malang. Intelligence officials assume that these were probably Nakajima Ki-43^a aircraft which were known to have been left behind by the Japanese⁶.

A intelligence report of 12 June 1946⁷ provided the first detailed estimate of the Indonesian air force's aircraft on Java:

- Tasikmalaya: 2 unserviceable Mansyu Ki-79 trainers;
- Surakarta: 3 unserviceable Mansyu Ki-79 trainers;
- Parigi: 7 unserviceable Mansyu Ki-79 trainers;
- Yogyakarta: 17 serviceable and 26 unserviceable Yokosuka K5Y1 trainers; and
- Singosari: 7 unserviceable Mansyu Ki-79 trainers, 1 serviceable and 6 unserviceable Tachikawa Ki-55 trainers, 9 serviceable and 5 unserviceable Kawasaki Ki-48 light bombers, 9 serviceable Mitsubishi Ki-51 light bombers, 5 serviceable and 3 unserviceable Mitsubishi Ki-46 reconnaissance aircraft, 3 serviceable and 7 unserviceable Nakajima Ki-43 fighters; 14 serviceable and 4 unserviceable Kawasaki Ki-61 fighters, 1 unserviceable Mitsubishi Ki-21 medium bomber and 2 unserviceable Nakajima Ki-49 medium bombers.

^a The Dutch intelligence reports refer to these aircraft by their Allied code names.

This provides a total estimated strength of 58 serviceable aircraft and 73 unserviceable aircraft. The same report also lists the airfields on that are under Indonesian control: Cisauk (West Java), Kalijati (West Java), Sutawangi (West Java), Tasikmalaya (West Java), Parigi (West Java), Maguwo (Yogyakarta), Klaten (Central Java), Bedji (Central Java), Maospati (near Madiun in East Java), Gresik (East Java), Bakalan (East Java), Singosari (near Malang in East Java), Gilitimur (Madura), Raci (East Java), Pasirian (East Java), Gesari (Central Java), another airfield at Yogyakarta and Sumenep (Madura). The report is silent on the serviceability of these airfields but indicates it is believed that only the two Yogyakarta fields, Klaten and Malang were used by the AURI.

Whilst a claim that about 100 aircraft had been observed at Maguwo⁸ is considered unrealistic, it is also acknowledged that an accurate assessment of the strength of the AURI on Java is not possible⁹.

The Dutch intelligence report continue to mention sightings of Indonesian aircraft: two Yokosuka K5Y1s over Surakarta on 23 May 1946, 12 aircraft at Tasikmalaya on 31 July 1946, 18 aircraft at Kalijati along with 13 Japanese instructors on 15 August 1946, 6 Yokosuka K5Y1 trainers at Maguwo on 18 August 1946, 3 fighters, a bomber and several trainers at Bugis, near Malang, in September 1946 and a flight over Semarang on 10 October 1946, just to mention a few.

Some observations are clearly wrong. On 1 July 1946 three twin engined aircraft and four fighters were observed over Malang and, although no types are identified, it is suggested that one may be a Glenn Martin Maryland¹⁰. Since the Maryland was not usually used in the Far East, this observation is most likely incorrect and the aircraft was probably a Kawasaki Ki-48, which looks somewhat similar. Interesting is also a report of 30 November 1946 that a three engined aircraft was seen in Middle Java, which might have been one of the pre-war Fokkers which could have been captured by the Japanese in 1942¹¹, and more specifically one of the Fokker F-12s.

A separate development took place on the island of Sumatra where over 60 airfields had been identified of which the AURI used Karangendah (South Sumatra)^a, Blang Bintang (Aceh) and Lho'nga (Aceh), Bireuen (in Aceh), Bukittinggi (West Sumatra), Idi (Aceh), Sihitang (North Sumatra), Sabokingking (South Sumatra) and Mandah (Lampung)¹².

An October 1945 intelligence report, probably from British sources¹³, estimates the following aircraft in South Sumatra without a comment as to the serviceability of the aircraft:

- Palembang (assumed to be Talang Betutu): 1 Nakajima Ki-27, 1 Nakajima Ki-43, 1 Nakajima Ki-44, 8 Kawasaki Ki-45, 14 Kawasaki Ki-16, 3 Tachikawa Ki-36, 1 Mitsubishi Ki-46, 3 "type 99 army scout" (a type which be further identified), 3 Mitsubishi Ki-21, 2 Mitsubishi Ki-57, 2 Tachikawa Ki-55 and 6 Mansyu Ki-79;
- Gelungbang (also known as Karengendah): 7 Kawasaki Ki-45, 12 Mitsubishi Ki-46, 1 Mitsubishi Ki-30 and 1 Mansyu Ki-79;
- Batu: 2 Nakajima Ki-43, 21 Nakajima Ki-44 and 9 Mansyu Ki-79;
- Betong: 5 Nakajima Ki-43, 2 Nakajima Ki-84 and 5 Mansyu Ki-79;
- Lahat: 2 Mansyu Ki-79;
- Tanjung Karang: 8 Tachikawa Ki-36 and 2 Tachikawa Ki-55; and
- Pankal Pinang: 3 Mansyu Ki-79.

There are no known summary tables of the aircraft available in the other areas of Sumatra but some idea can be obtained from the sightings that took place in that period:

- on 10 July 1946 a twin engined aircraft crewed by Japanese and carrying 3 Japanese and 11 Indonesians, landed at Pendawa Raien (North Sumatra)¹⁴; and
- end July 1946 a Dutch reconnaissance flight over Lho'nga, observed 2 Nakajima Ki-27 fighter aircraft¹⁵.

^a This was the pre-war Palembang II airbase.

In early August 1946 a local headquarters for the AURI was being established in Pematang Siantar (North Sumatra) whilst a training school was opened at Brastagi (North Sumatra)¹⁶, where, on 10 August 1946, two training aircraft were observed¹⁷. To what extent such a school actually operated cannot be established but, as in April 1947 the airfield in Brastagi was considered to be in such a state that it would have to be built again, rather than repaired, seems to be indicating that not too much was happening¹⁸.

On 26 September 1946 discussions were also held in Palembang concerning the establishment of a pilot training facility there¹⁹. It is likely that this may have resulted in the establishment of a school at Karengendah, which in January 1947 was assessed as the most important airfield in South Sumatra with 60 pilots in training²⁰. The flying school may eventually have been established at Bukittinggi²¹.

To the end of 1946 AURI flights were limited to training flights and propaganda flights – the latter to create an interest in aviation and recruit more personnel. There is no record of, what would be considered, operational flight against the Dutch. To a certain extent this is understandable as the bulk of Japanese aircraft that were adopted by the new air force were training aircraft.

However, towards the end of the year, the AURI began to show an interest in acquiring new aircraft and, in particular, transport aircraft.

According to Antara, the Indonesian press agency, the Republic negotiated with the British government on a possible purchase of RAF Dakotas that were present on Java and Sumatra²² whilst in February 1947 there was a report of Indonesian plans to purchase Dakotas and amphibian aircraft (Catalinas?) in Manila²³. In the same period the Arabian newspaper Al Bilaadoes Saroedjah reports that the Indonesian government wanted to buy 352 aircraft from a foreign company²⁴.

By March 1947 AURI activities seem to concentrate on the repair of airfields in Sumatra, in particular Bukittinggi, Pekanbaru and Karengendah, as well as the positioning of fuel depots. This was interpreted as leading towards the establishment of regular air services between Yogyakarta and Kotaradja (these days called Bandar Aceh) in Sumatra²⁵. The interpretation was partially correct but, instead of Yogyakarta to Kotaradja, the air service was between Yogyakarta and Singapore. However, Indonesia did not possess the right type of aircraft for such a service.

In April 1947 Radio Yogyakarta announced the purchase two undisclosed (transport?) aircraft from America, with possibly another four following²⁶. Whilst this announcement was not correct, Indonesian officials had discussion with an Abdul Wahab and other Indonesians in Singapore about the purchase of 11 Catalinas at Straits \$ 10,000 each, as well as a number of Fairchild (24?) from Australia. These would be paid for by export revenue from sugar, rubber etc²⁷.

None of these deals came to fruition and instead the Indonesian government began to look towards chartering aircraft, as is further discussed in the section on civil aviation.

In June 1947 the status of the AURI aircraft on Java was²⁸:

- Kalijati: 2 Mansyu Ki-79
- Tasikmalaya: 2 fighters (presumed Nakajima Ki-27) and 4 Yokosuka K5Y1
- Maguwo: 2 Kawasaki Ki-48, 7 Yokosuka K5Y1, 1 Nakajima Ki-43
- Maospati: 1 Tachikawa Ki-55, 1 unidentified, 1 glider.

This made a total of 20 AURI aircraft on Java. In addition there was a report that 18 aircraft were being repaired at Singosari by German engineers and pilots, including a Fairey Firefly that was lost by the MLD (probably F-24, written off on 14 May 1947)²⁹.

No details of the strength in Sumatra were available but it was estimated that it might be only 10 aircraft. Also the total personnel strength of the AURI was estimated as 5000³⁰.

In developing plans for the Police Action of July 1947, the Dutch were concerned that, in a desperate move, the AURI would use all its aircraft to attack the few Dutch controlled airbases and make them unusable. It was therefore planned that the destruction of the AURI fleet was a high priority and had to be executed quick. Dubbed Operation Pelikaan, and within the overall

structure of the Police Action, the first actions of the ML-KNIL on 21 July 1947 were to attack the AURI airfields and in particular destroy the aircraft on these fields:

- 121st Squadron, flying P-51s, attacked Parigi, Tasikmalaya and Kalijati and destroyed eight aircraft;
- 120th Squadron, flying P-40s, attacked Maguwo, Maospati and Panasan (near Surakarta) and, presumably destroyed aircraft there;
- 16th Squadron, flying B-25s, attacked Mandah and destroyed 2 aircraft;
- 122nd Squadron, flying P-51s, attacked Lho'nga and destroyed aircraft there.

The raids were not completely successful as 120th Squadron had to make further attacks on Maospati on 22 July 1947, at which it destroyed 5 aircraft, and another attack against Maguwo on 23 July 1947 during which one aircraft was destroyed.

Operation Pelikaan resulted in the destruction of 24 AURI aircraft as well as disabled ground facilities at the Indonesian airbases, where clever camouflage techniques had prevented the destruction of all aircraft³¹.

It appears at least four aircraft remained in tact, two Yokosuka K5Y1, a Mitsubishi Ki-51 and a Nakajima Ki-43 and three were used within a few days to make this obvious to the Dutch forces during air raids over Salatiga (Central Java), Semarang and Ambarawa on 29 July 1947. The fourth aircraft, the Nakajima Ki-43, did not take part in these raids as it has problems with its machine gun³².

Dutch reports on the event state that a biplane flew over Salatiga and dropped a dud bomb on the local hospital whilst another aircraft flew over Semarang and dropped two bombs over the port area, killing seven people. The report does not identify the type of aircraft used on the first raid whilst the aircraft type of the Semarang raid has been described as a twin engined aircraft³³ and a Nakajima Ki-27³⁴. No Dutch reports on the Ambarawa raid have been sighted.

As a consequence, the 120th Squadron continued raiding Maguwo and Maospati and, apart from the incident with DC-3 VT-CLA, which has been described separately, a further number of aircraft were destroyed on 29 July 1947, 30 July 1947 and 4 August 1947³⁵.

The effect of Operation Pelikaan was the destruction of Indonesia's air power, not just in terms of the destruction of its aircraft but also the loss of the important Kalijati base³⁶. It marked a change in the approach of the AURI and its effort now began to be concentrated on the operations with civilian aircraft which have been described separately. In spite of this, later reports indicate that some of the aircraft had survived and were repaired.

The loss of aircraft did not stop the development of the paratroopers which were part of the AURI, as evidenced by the parachute drop over Kotawaringi in Kalimantan, on 17 October 1947. This drop was executed by one of the chartered Dakotas, RI-002³⁷.

It was not until the transfer of power from the Netherlands to Indonesia that the AURI received some Dutch aircraft before the formal handover in early 1950. These aircraft were probably flown by Dutch personnel. In the meantime, the AURI had begun with a large scale pilot training programme which was conducted at the Trans Ocean Air Line facility at Oakland Airport (TALOA) in California.

Early AURI aircraft

The Indonesian forces used a red-white partitioned disc as their nationality marking. It was placed on the wings and fuselage.

Based on photographic records it seems that some of the aircraft carried some serial composed of letters (possibly indicating the type of aircraft) followed by a number. Based on the knowledge that the Indonesian sound currently represented by the letter 'c' was represented as 'tj' in the 1945-1950 era it is reasonable to assume that the letters TJ represented the 'Cureng' aircraft and the letters TK the 'Cukiu' aircraft. No such connections can be made for other known serials.

It is also tempting to suggest that the number associated with these letters represent a range of numbers used in serials, however, there is insufficient information to make such a suggestion – even if caution is applied.

As far as other observed serials are concerned, they may be former Japanese serials (or part of such serials) or serials allocated by units before central control had successfully been established.

The **Mitsubishi Ki-51** was a two seat attack aircraft that was first flown in June 1939. The Indonesian forces named it 'Banteng' as well as 'Guntei'³⁸. Known serials include G-32 and GT-252 and up to eight may have been used. The Guntei displayed in Yogyakarta never served with the AURI but was found in Babo, Irian Jaya, much later and then restored.



Tachikawa Ki-55 (Source: TNI-AU)

The **Tachikawa Ki-55** was a two seat army cooperation aircraft that was introduced in 1938 and was named 'Cukiu' by the Indonesians. Known serials include TK-04, TK-05 and TK-06 as well as Nk-151 and Nk-154³⁹. On 27 April 1946 TK-04, TK-05 and TK-06 were used to fly senior AURI officers from Maguwo to Kemayoran (Batavia) for negotiations with the British forces on the repatriation of prisoners of war. The next day TK-06 continued to Gorda, Teluk Betung and Branti in South Sumatra as a goodwill flight whilst TK-05 returned to Maguwo via Kalijati. Unfortunately TK-04 developed problems and had to be abandoned at Kemayoran whilst the crew went back to Maguwo by train⁴⁰. The fate of the aircraft is not documented but it can be assumed it was written off.

Some reference sources suggest 45 were obtained whilst other sources have put the figure at 25⁴¹. From the mentioned serials it is reasonable to assume (but not confirmed) that serials TK-01 to TK-03 also existed.



Yokosuka K5Y1

The **Yokosuka K5Y1** was a two seat trainer, which was introduced in 1933, was flown by the Indonesian forces as 'Cureng'.

Some sources suggest that 70 aircraft were obtained of which 20 were flown.

Known serials include 20, 25, TJ-53 and TJ-54. Photos with six aircraft have been seen. Aircraft with serials TJ-56 and 72 were captured by Dutch forces⁴². Other references have mentioned TJ-61⁴³. From the mentioned serials it is reasonable to assume (but not confirmed) that the other serials between TJ-53 and TJ-72 were also used.

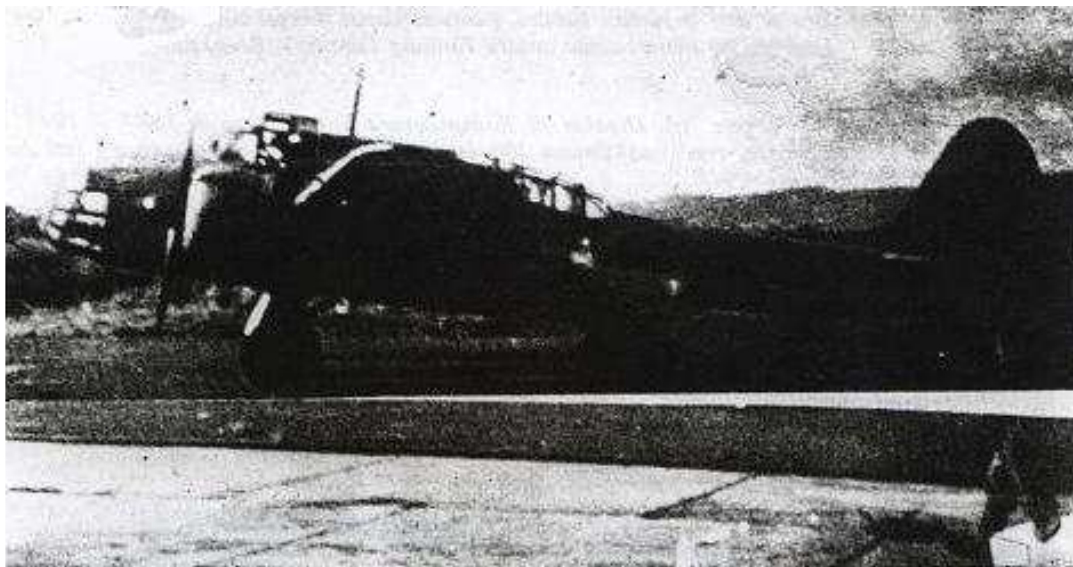
There is a poor replica of the Cureng in the TNI-AU museum in Yogyakarta.

Two **Nakajima Ki-49** twin engined heavy bombers were acquired as 'Diponegoro I', of which one was destroyed during a Dutch bombardment of Maospati on 21 July 1947.



Nakajima Ki-49

A **Kawasaki Ki-48** twin engined bomber was used by the Indonesian forces as 'Diponegoro II'. It has been reported that one Ki-48 was destroyed at the Maospati air base during a Dutch bombardment in 1948.



Kawasaki Ki-48

The Indonesian forces probably obtained six **Kawasaki Ki-61** single seat fighters. At least one was repaired in Madiun in 1946. It was also called the 'Mustang Jepang' (Japanese Mustang).



Mansyu Ki-79 (Source: TNI-AU)

The **Mansyu Ki-79 Nishikoren** was a two seat advanced trainer which was based on the Nakajima Ki-27 and was first flown in 1942. The Indonesia forces acquired at least nine of these aircraft and they were used, amongst others, as liaison aircraft. Known serials include P-151 and P-154⁴⁴

One remains in a museum in Jakarta whilst there is a replica in Yogyakarta.



Nakajima Ki-43

The **Nakajima Ki-43** was a single seat fighter of which the Indonesian forces probably obtained eleven of them. One of these, with serial H-45, is at the TNI-AU museum but this is an aircraft found at a later date in Babo, Irian Jaya. Another aircraft carried serial 542.



Nakajima Ki-27 (via C. van de Heuvel)

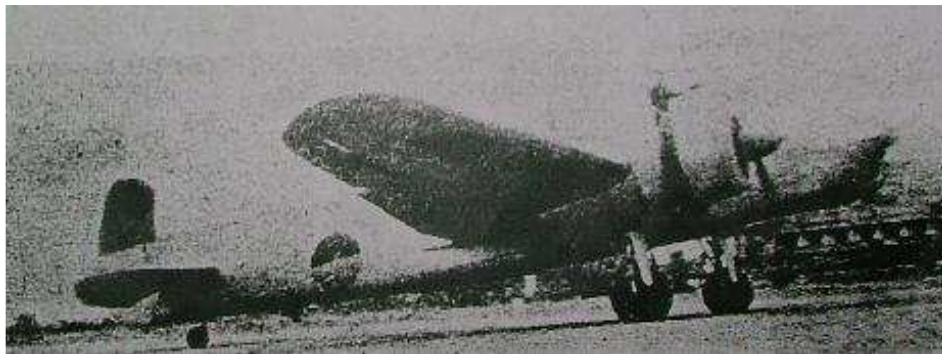
Contemporary Dutch references have mentioned the use of the **Nakajima Ki-27**, a single seat light fighter which flew for the first time in 1936. Although there is a lack of any collaborating information from other sources, later and Indonesian, there is photographic evidence of such an aircraft being used by the Indonesian forces.

Other references to Japanese aircraft that were used by the Indonesian forces include:

- one Kawanishi H6K2-1 a flying boat which was subsequently captured by the Dutch forces⁴⁵;
- four Kawanishi N1K1 Shiden;
- one or more Mitsubishi F1M observation floatplanes, several Mitsubishi Ki-46 reconnaissance aircraft, one Kyushu E14Y1 and six Tachikawa Ki-9⁴⁶;
- a Mitsubishi Ki-57 transport at Malang, one or more Nakajima B5N carrier attack bombers in Sumatra and one or more Nakajima B6N carrier attack bomber in Sumatra⁴⁷; and
- a Nakajima A6M2-N fighter on floats near Tanjung Belai (North Sumatra)⁴⁸.

The lack of mention of these aircraft in other sources may indicate that some of them were incorrectly identified.

Also the name Sudirman has been associated with multi-engine bombers.



Bristol Blenheim

In 1945/46 the Indonesia forces acquired a **Bristol Blenheim VI**. Although one source claims this aircraft was acquired from the Netherlands, its source is not known. It has been reported that the aircraft was re-engined with Japanese Nakajima Sakai engines⁴⁹. It is possible that the aircraft concerned was captured by the Japanese in 1942 and subsequently captured by the Indonesian forces in 1945.

In addition reference has been made to **de Havilland DH-60G Moth Minor** (one aircraft from 1945 to 1948) for which no additional supporting evidence has been found⁵⁰ whilst it has also been suggested that a Tiger Moth and a Koolhoven aircraft were used although the report considered this unlikely⁵¹.

Indonesian civilian aviation

In 1947 and 1948 the Republic of Indonesia chartered a number of aircraft to run the Dutch blockade. These aircraft were operated by foreign pilots in cooperation with Indonesian personnel, most of whom belonged to the military services. Initially these aircraft were flown with their foreign civilian registrations but, by late 1948, these aircraft were registered in a separate RI sequence, appearing as civil registrations.

In April 1947 the fledgling Hong Kong based Cathay Pacific Airlines accepted a charter from Indonesia which was linked to the potential sale of the aircraft concerned, a C-47 with the

registration VR-HDJ. For about three weeks this aircraft flew daily flights between Maguwo and Bukittinggi, whilst operating from the Changi airbase. The first flight was on 9 April 1947⁵² with other flights on 23 and 24 April 1947⁵³. The sale of the aircraft did not materialise although it was already referred to as IR-1 (sic). One of the pilots on this operation was Roy Hazlehurst, who continued to fly in Indonesian service until killed in the crash VT-CLA, described below⁵⁴.

Another charter flight took place on 14 June 1947 when, late in the afternoon an Avro Anson landed on the Sabokingking airstrip, which was, at that time, controlled by the Dutch. It was registered as VH-ARK and was owned by an Australian named Board who stated that he had mistaken the strip for Talang Betutu. The aircraft had formerly flown with the RAF as N4936 carried some passengers and Board requested that he be allowed to fly to Talang Betutu the next morning. This was allowed but when he did not arrive at Talang Betutu, a B-25 made a reconnaissance flight and found the aircraft at Muntok (on Banka Island in South Sumatra), also controlled by the Dutch. One of the passengers, a Mr. Stanford, did not have the appropriate papers, neither did the other passenger. As Muntok had no fuel, the aircraft took off again to fly to Pangkal Pinang, in Dutch controlled territory. Subsequently the aircraft was prohibited to leave Pangkal Pinang but somehow escaped to fly back to Singapore on 19 June 1947. Board and Stanford were suspected of having trade relations with Indonesia⁵⁵. It has been reported that VH-ARK was sold to Singapore on 17 July 1947 possibly for use by the Indonesian air force⁵⁶.

There was also the suggestion in June 1947 that a Douglas DC-4 had arrived and was being prepared for use⁵⁷ but, the absence of any further data makes this unlikely. Also an airline known as Oriental Skyline was mentioned as the operator of charter flights between Yogyakarta and Singapore⁵⁸ but, since no further evidence has been found, it is likely that this information was erroneous.

Another aircraft used by the Indonesians was the India registered Dakota VT-CLA. Its previous identity was 43-49655. It was owned by the Government of Orissa, in India, but was purchased in support of the Indonesian republic. The purchase was arranged by Bijayananda Patnaik, who hailed from a family of freedom fighters, ideologues and patriots in Orissa. Patnaik had earlier been involved in the Indian freedom struggle and eventually became a leading figure in the government of Orissa.

Based on Indonesian references VT-CLA was shot down near Maguwo by ML-KNIL P-40s on 27 July 1947, whilst on charter to the Indonesia government on a flight from Singapore to Maguwo. The aircraft was flown by Australian Noel Constantine and British Roy Hazlehurst, along with radio-operator Adisumarmo Wiriokusumo and mechanic Bhida Ram, carried Red Cross medicines as well as Constantine's wife, Air Commodore Adisutjipto, Air Commodore Abdulrachman Saleh as Zainul Arifin. All except one, were killed⁵⁹. Indonesian publications show drawings of the aircraft with a burning left engine⁶⁰.

A Dutch report for the period 27 July to 3 August 1947⁶¹ provides an alternative version of the events. The report claims that the Dutch authorities had not been informed of the flight and the aircraft carried no Red Cross markings. The report continues to state that: 'Of course the ML-KNIL has instructions to hinder republican air activities. Each aircraft that is over republican territory without clear markings and of which the pilot maneuvers in a manner that indicates he wants to avoid being spotted, in serious danger'. But nevertheless the orders were not to shoot an aircraft down but instead force it to land on the nearest airfield in Dutch control. The report further states that a warning shot was fired at the aircraft upon which the aircraft hit a tree and crashed. The passing of time make it impossible to conclude what actually happened. The Dutch version sounds reasonable and the fact that the aircraft hit a tree might indicate that it flew at a very low altitude to evade being spotted. At the same time, a shot was fired and may have hit the engine.

Subsequently the aircraft's owner, Patnaik, demanded 10 million rupees from the Dutch government as compensation. Instead of paying the amount, the Dutch government eventually transferred a KLM DC-3 to India. It is now believed that the aircraft concerned was PH-TAZ⁶².

This 'overtakes' the suggestion in another reference source that PH-TAZ was transferred to China as compensation for a Chinese Li-2 which was shot down by the Dutch forces off Borneo⁶³. It is further believed that India subsequently transferred the aircraft to Indonesia and that it is now displayed as one of the many RI-001s. The VT-CLA on display in the TNI-AU Museum is another aircraft.

Other sources suggest that in 1947(?) the Dutch captured a PBY Catalina owned by Trans Asiatic Airlines of the Philippines⁶⁴. The aircraft was allegedly flying for the Indonesian military. This company had also an associated company in Thailand and is believed to have been a CIA sponsored organisation.

A DC-3 owned by Pacific Overseas Airlines of Siam was forced down by the Dutch near the west coast of Sumatra on 25 October 1948. It was registered as HS-PC103⁶⁵ and had flown regular services between Bangkok and Maguwo⁶⁶. Reference has also been made to a C-47 registered as PI-C142.

Other companies that were involved in charter flights were Orient Airways (Pakistan), South Eastern Airways and Kalinga Air Lines (India)⁶⁷.

The registration **RI-001** was assigned to a Douglas C-47 which has achieved almost mythical status in Indonesia.

This aircraft was originally registered as VR-HEC and was registered in the name of Lad M. Moore. Its previous identity was 43-49642. Based on Dutch intelligence reports it appears that the aircraft had been chartered by the Indonesian authorities before⁶⁸. On 14 October 1958 it was purchased by Indonesian Airways with 20 kg of gold donated by the people of Aceh to Sukarno during a tour of Sumatra⁶⁹.

Lad Moore was an American who had previously flown the 'Hump' and had joined China National Airways Corp (CNAC) after the war. Following his early involvement with Indonesian Airways he continued to service the AURI as a chief advisor until 1952, with a short break in 1951. In this function, whilst based in Bandung, he instructed Indonesian pilots on C-47s as well as fighter planes. He returned to the US where he passed away on 22 July 1956⁷⁰.

It has been suggested that RI-001 was parked at Maguwo when the Dutch forces captured this airport on 19 December 1948 and was taken over by the Dutch⁷¹ but this cannot be substantiated from Dutch reports and seems to be contradictory to its subsequent history when, named Seulawah, it was based in Rangoon. From there it flew under charter to the Burmese government during 1949 and part of 1950. The revenue from these charter flights provided enough money to buy another two aircraft and hire more pilots and staff⁷². It is highly likely that these were the aircraft registered as RI-007 and RI-009.

Aircraft RI-001 was flown by the American Carl Wiss as well as the Indonesian Sumardjono. Wiss was another American who had flown the hump and who, after the war stayed with CNAC flying C-46 aircraft. Following a crash in January 1948 he left CNAC, presumably to fly for the Indonesians in Rangoon. He lived until the 1990s⁷³.

Other former Hump and CNAC pilots involved in the operations of Indonesian Airways were Americans Len Parish, Jim Maupin and Bob Pottschmidt who made several flights between Burma and Yogyakarta. The three continued to work for the AURI after 1950⁷⁴.

In August 1950 aircraft RI-001 was transferred to the AURI.

In the 1960's an AURI aircraft, T-4775, was flown as RI-001. This aircraft had former identities 45-0965, NZ3557, VH-MMO, ZK-AOH, PK-VTM and PK-NDG.

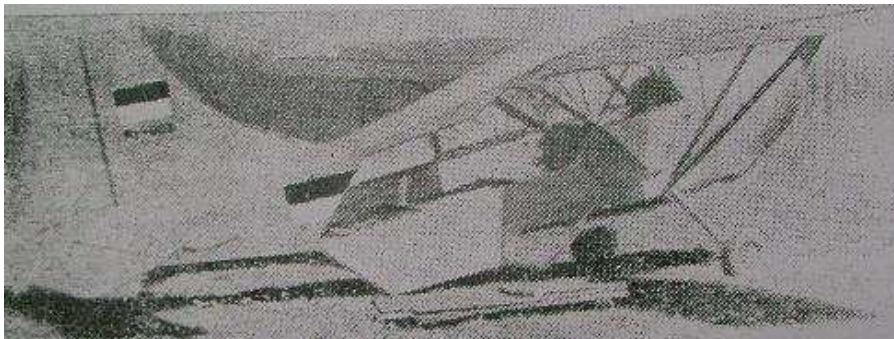
It may be one of the three RI-001 aircraft displayed in various museums in Indonesia: the Taman Mini Indonesia site, in Banda Aceh as well as in a museum at Pondok Cabe, near Jakarta. Their original identities are not known.



RI-002 (re-enactment?) (Source: TNI-AU)

Another Douglas C-47, registered as **RI-002** and formerly identified as 43-16112, was leased from and flown by Robert Earl Freeberg from June 1947. This aircraft was used on 17 October 1947 to drop 12 para troopers over Kotawaringi, in Kalimantan⁷⁵. During June 1948 Sukarno made a tour of Sumatra with this aircraft⁷⁶. It was written off on 1 October 1948 on a flight from Tanjung Karang to Bengkulu when it was flown by Freeberg. Some references have reported that the aircraft was shot down by a B-25⁷⁷. At the time of the crash reports circulated that the aircraft had been captured at Palembang by the Dutch or that it had flown to Bangkok. Also the Indonesians made extensive searches for the wreck⁷⁸. This all may have been an indication that the cargo may have been valuable.

Photos of the RI-002 have appeared in TNI-AU publications⁷⁹ but, as one of the photos is an air-to-air photo, it is suspected that the photos concerned involve some re-enactment of the Kotawaringi drop described above.



Stinson Sentinel RI-003

The Stinson Sentinel was a liaison/observation aircraft introduced in 1942. Indonesian forces acquired one from, allegedly Ralph Cobley⁸⁰, in April 1948⁸¹ and it was registered as **RI-003**. This registration conflicts with the Avro Anson which was also registered as RI-003. It was used by the

Commander of Sumatra⁸² and crashed on 7 July 1948 on a flight from Jambi to Bengkulu whilst being flown by Major Sunario.

Most likely the aircraft was former USAAF aircraft 44-17412 with c/n 76-3699 that, after the war went to Burma as XY-ABA and has been recorded as going to Indonesia in 1947⁸³.

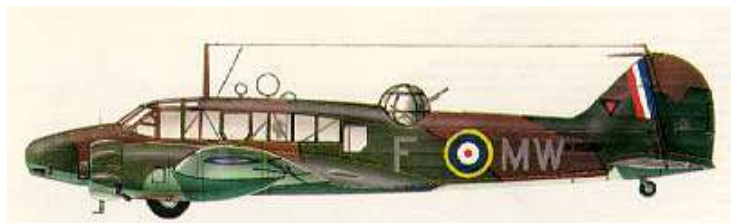
The Indonesian forces operated two Avro Ansons which had been purchased with gold collected in Bukittinggi⁸⁴, the hometown of Indonesian Vice-President Mohammed Hatta.

The first of these has been associated with the registration **RI-003** (which registration was also used for the Stinson Sentinel, as described above) and carried previously the Australian registration VH-BBY. This aircraft was formerly RAF AX505 and was sold to Queensland Aerial Ambulance & Taxi Services in November 1946 before being acquired by Air Traders and exported to Thailand. Although some sources suggest that it was obtained by Indonesia in September 1947, other sources state that H. Keegan flew it to Thailand and Singapore in December 1947, following which it was chartered by the Indonesian authorities. As part of the charter Keegan flew the aircraft from Singapore to Bukittinggi and took part in the first operational flight from Bukittinggi to Singora in Burma on 10 December 1947. On this flight Keegan was joined by Lt. Col. Iswanjudi as co-pilot whilst carrying passengers. In Singora, two Indonesian pilots, Iswanjudi and Halim Pedanakusuma, took over the aircraft and flew back to Bukittinggi on 14 December 1947. On the way the aircraft crashed at Tanjung Hentu, Malaysia in a monsoon storm, killing the Indonesian crew. There are no details of the fate of possible passengers⁸⁵. Keegan later joined Queensland Airlines and crashed on 10 March 1949 in Bilinga, Queensland whilst flying Lockheed Lodestar VH-BAG⁸⁶. One reference source has linked VH-BBY to the registration RI-001⁸⁷ but it is almost certain that this link is incorrect.



Avro Anson RI-003 (Source: TNI-AU)

An excellent photo of RI-003 has been published by the TNI-AU⁸⁸ but, in the authors opinion, there is a serious doubt about the authenticity of this photo. Based on the above history this, rather clear, photo should have been made sometime between 10 December and 14 December 1947 using another aircraft. The photo shows some vague former markings resembling F MW as well as an extended gun turret.



Indeed, in other reference sources, there is an image of an aircraft marked F MW (serial K6285), which represents an aircraft that served with the 321st Squadron of the RAF, a squadron manned by Dutch naval personnel and operating Avro Ansons in the European theatre of war until disbanded on 18 January 1941. This squadron was reformed in March 1942 and, eventually, operated the MLD Consolidated Liberators that were used in the NEI⁸⁹. RAF aircraft AX505, on the other hand, was an Anson Mk.1, part of a batch of which most were used by the Empire Air Training Scheme⁹⁰.

The photo's authenticity is further implicated as another TNI-AU reference has a picture of a trio of Rockwell Broncos flying against an identical background landscape as on the RI-003 photo. When superimposed on this latter photo, the RI-003 image covers almost the three Broncos. Furthermore, in the same publication is another photo of RI-003, but this time so heavily retouched that it is obviously not real and with the RI-003 registration is shown in a different typeface⁹¹.



Retouched photo of RI-003 (Source: TNI-AU)

Because of the time of its use (December 1947) it is possible that the aircraft registered as VH-BBY never received a RI registration and that the RI-003 registration was a later 'invention' in an effort to enhance historical record.

A report on the discovery of the wreckage of an Indonesian Air Force Avro Anson in a swamp in Indonesia and that this aircraft, piloted by the founder of the Indonesian Air Force, was believed to have been shot down by Dutch P-51s, is obviously incorrect apart from the possibility that the wreckage may have been found 'somewhere' in Indonesia⁹².



Avro Anson RI-004

The other Avro Anson was registered as **RI-004** and was bought from Wade Palmer. It was formerly known as RAF W2473 and had been operated by Airlines of WA as VH-AGX before it was exported to Singapore on 26 March 1948⁹³. It was acquired on 20 July 1948 and made some regular flights between Maguwo and Maospati before being grounded by mechanical problems. It was found by Dutch forces when they capture Maguwo on 19 December 1948⁹⁴. It is believed it was subsequently broken up⁹⁵. Some reference sources link this aircraft to VH-BBY. Note that the registration VH-AGX was later re-used for a Lockheed Hudson.

Prior to 1950 the Indonesian forces operated two Consolidated Catalinas with registrations RI-005 and RI-006. Catalina **RI-005** was purchased from Richard Cobley (most likely the same persons as Ralph Cobley), who was trading as Richard Conway Aviation. The Catalina, built by Vickers Canadian, had previously been registered as VH-BDP and was RAAF's A24-26 and RCAF VA711 before that. It was acquired in 1948 and was flown by Cobley⁹⁶. On a flight in November 1948 with an illegal cargo of opium on behalf of the Indonesian Republic's Minister of Finance, Dr A Maramis⁹⁷, it became stranded in Jambi because of mechanical problems with the engines⁹⁸. From Indonesian references it is apparent that RI-005 sank in a river near Jambi on 29 December 1948 after a failed one engine take off in an effort to escape from approaching Dutch troops⁹⁹.



RI-006 (Source: Koninklijke Luchtmacht)

The other Catalina, **RI-006**, was previously owned by James Fleming who flew it in the Philippines with registration PI-C274. Fleming also flew the aircraft in Indonesia with an Indonesian officer as second pilot on most flights.

It made its first flight from Manila to Maguwo in October 1948 with a second flight in November 1948¹⁰⁰. The third flight was on 15 December 1948 when it flew from Manila to Yogyakarta with a cargo consisting of 100 kg of medicines. In addition Fleming carried some private cargo consisting of cloth samples whilst his partner named Arkin was also on board.

On 18 December 1948 the aircraft was chartered by the Indonesian Federal Commercial Organization for a flight to Tanjung Karang, on which flight it carried 25 civilians and their luggage. On 19 December the return flight was made with eight passenger, but unaware that the Maguwo airfield had been taken over by the Dutch forces, Fleming landed on the field and was arrested. One of the passenger was found to carry some opium samples as well as 1 kg of gold destined for the Indonesian government in Yogyakarta.

On 31 December 1948 Dutch navy officers flew the aircraft, still identified as RI-006, to Cililitan.¹⁰¹ Eventually it was transferred to the MLD and broken down for spares.

The registration **RI-007** was given to another C-47. Apart from the fact that it was obtained in Burma Lad Moore, few other details are known.¹⁰² It is, however, highly likely that this aircraft was also used for charter flights in Burma and may never have flown in the Indonesian archipelago.



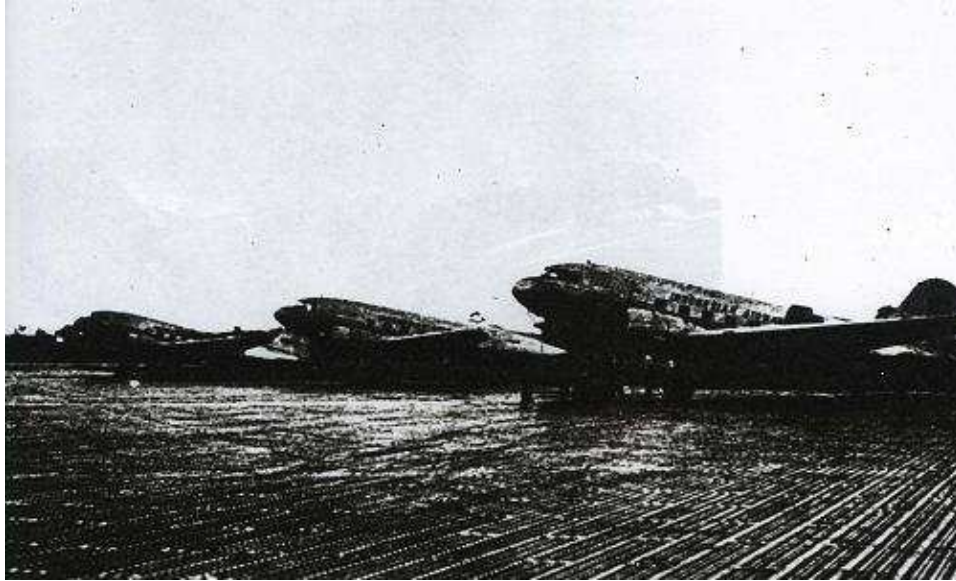
RI-007

The **De Havilland DH-86 Rapide** was a 10 passenger aircraft built against Qantas specifications. One was used by Indonesia with registration RI-008 in October 1948. It was formerly operated by British Airways as G-ADYH¹⁰³ and had previously been used for migrant charters to Australia¹⁰⁴. It was captured by Dutch forces on Maguwo on 19 December 1948 and was flown to Andir¹⁰⁵. The sparkplugs of the engines were eventually used for the Auster's flown by the Koninklijke Luchtmacht¹⁰⁶. The subsequent fate of the aircraft is not known.



DH Rapide RI-008 (Source: Koninklijke Luchtmacht)

The highest known RI registration was **RI-009**, which was given to another Dakota (a C-53) allegedly obtained in Burma where it was registered as N4630V in the name of Lad Moore (who also had RI-001 and RI-007 registered)¹⁰⁷. Its previous registrations which included PI-C149 and subsequent registrations N4630V and PP-CDS (of Cruzeiro) are also known¹⁰⁸. Like RI-007 it was operated in Burma and it is likely that this aircraft never flew in Indonesia.



RI-001, RI-007 and RI-009 somewhere in Burma

Dutch air presence

It is not the intention to provide a detailed overview of the operations of the Dutch military and civilian services, provided by the ML-KNIL, the MLD, the Klu, the NIGAT and later the KLM Interinsulaar Bedrijf, during the 1945-1950 period as these operations have been discussed in detail in other reference sources. However, the following paragraphs will provide a summary of the organisation and strength of these military forces and civilian services.

The Dutch military aviation during the 1945-1950 period consisted of:

- 16th Squadron (ML-KNIL), established 1 November 1946 and equipped with North American B-25 Mitchell bombers;
- 17th Squadron (ML-KNIL), established 15 July 1946 and equipped with Piper L-4J Cub light reconnaissance aircraft;
- 18th Squadron (ML-KNIL), established 9 April 1942 and equipped with North American B-25 bombers;
- 19th Squadron (ML-KNIL), established 15 August 1945 and equipped with Douglas C-47 transports and some Lockheed C-60 Lodestar transports;
- 20th Squadron (ML-KNIL), established 1 November 1946 and equipped with North American B-25 Mitchell aircraft converted as transport aircraft;
- 120th Squadron (ML-KNIL), established 10 December 1943 and equipped with Curtiss P-40 Kittyhawk fighters;
- 121st Squadron (ML-KNIL), established 5 May 1946 and equipped with North American P-51 Mustang fighters;
- 122nd Squadron (ML-KNIL), established 1 November 1946 and equipped with North American P-51 Mustang fighters;
- Photo Verkennings Afdeling (PVA) (ML-KNIL), established on 1 January 1947 and equipped with North American B-25 Mitchell aircraft converted for photo-reconnaissance;
- Opleidings Commando (Training Command) (ML-KNIL) with Noorduyn AT-16 Harvards, Commonwealth CA-6 Wacketts and a number of Lockheed 12 light transports.
- 6th Squadron ArVa (Koninklijke Luchtmacht), established on 6 November 1947 and equipped with Auster AOP-III;
- 322nd Squadron (Koninklijke Luchtmacht), which arrived on 22 December 1947 and was equipped with Supermarine Spitfires;

- 321st Squadron (MLD), established during the war and equipped with Consolidated Catalina patrol boat aircraft;
- 860th Squadron (MLD), established 12 October 1946 and was equipped with Fairey Fireflies;
- 7th Squadron (MLD), established on 12 December 1949 and equipped with Douglas C-47s.

For a brief period a quasi government organisation known as the Netherlands Indies Government Air Transport (NIGAT) was responsible for civil aviation using essentially military aircraft with a special NI- registration. This organisation had an equivalent in the Netherlands as Netherlands Government Air Transport (NGAT).

The pre-war Koninklijke Nederlands Indische Luchtvaart Maatschappij (KNILM) was not revived when the domestic network was re-established in 1946 by the Koninklijke Luchtvaart Maatschappij (KLM) Interinsulair Bedrijf. Apart from the domestic services, plans were made for international services, including trans-pacific services.

Transfer of Dutch aircraft

The August 1949 Round Table Conference held in The Hague, the Netherlands, a conference which was called Konferensi Meja Bundar by the Indonesians, decided that military and civilian aircraft operated by the ML-KNIL and the KLM-IIB were to be handed over to Indonesia along with the associated assets such as bases and spare parts. As part of the transfer, advisory personnel would be seconded to the appropriate authorities for some time.

The agreement specifically excluded aircraft of the Koninklijke Luchtmacht (Klu) that operated in the NEI as well as aircraft of the Marine Luchtvaart Dienst (MLD).

Details on the aircraft handed over remain vague, especially as some aircraft may have been handed over in a non-flyable state.

Based on 'reconstructed' serials listings, which are by no means complete as many details of ML-KNIL aircraft have not yet been recovered, the maximum number of aircraft that could have been handed over was 256, comprising 30 CAC Wacketts, 29 AT-16 Harvard, 27 P-51 Mustangs, 41 B-25 Mitchells, 61 Piper L-Js, 7 Lockheed L-12s, 1 Norseman and 3 C-47 Dakota from the ML-KNIL (a total of 199 maximum), plus 14 C-47 Dakotas from the MLD, 21 C-47 Dakotas from the KLM-IIB and 22 Auster AOP Ibis from the KLu.

Based on reports from the Indonesian side¹⁰⁹, the AURI received 173 aircraft from the ML-KNIL, comprising 36 C-47 Dakotas, 22 B-25 Mitchells, 22 P-51 Mustangs, no Piper Cubs (sic), 40 AT-16 Harvards, 18 Auster AOPs, 5 Consolidated Catalinas, 4 Lockheed L-12s and 26 Vultee BT-13 (4) whilst another reference source, whilst retaining 173 aircraft, includes Piper Cubs and Grumman Goose aircraft but fails to mention the number of each type¹¹⁰.

Yet another Indonesian reference source¹¹¹ has suggested that on 20 June 1950 the ML-KNIL handed over 297 aircraft, comprising 29 C-47 Dakotas, 25 B-25 Mitchells, 30 P-51 Mustangs, 62 Piper Cubs, 74 AT-16/T-6G Harvard, 22 Auster Aiglet (an aircraft that flew for the first time in 1950), 9 Consolidated Catalinas and 46 Vultee BT-13 Valiants, with no mention of Lockheed L-12s.

Obviously the Indonesian data quoted above is in conflict with ML-KNIL data, in particular because of the inclusion of Consolidated Catalinas (which were MLD owned and were never handed over), Vultee BT-13 Valiants (which were never operated by the ML-KNIL or MLD) and Grumman Goose (which were never flown by the ML-KNIL or MLD and were acquired by the AURI from the Shell company in 1958¹¹²), as well as the omission of the Wacketts and the

Norseman (which were probably received but not operated by the AURI). This conflict is partially solved by a further Indonesian reference source which states that 25 North American AT-6 Harvards, 40 Vultee BT-13s, 6 Consolidated Catalinas as well as 6 Hiller 360 helicopters were purchased from US war surplus stores in September 1950 (by Wiweko Supono, acting on behalf of the Indonesian air force)¹¹³.

The transfer of aircraft, as well as some ML-KNIL personnel, enabled the AURI to establish Skadron 1, 2, 3 and 4 as well as WP-1. At the same time, pilot training was conducted in California.

The Dutch aircraft that were handed over are discussed in alphabetical order.

Auster AOP-III: the formal agreements excluded aircraft not part of the ML-KNIL inventory and, as such, a number of Auster AOP-III aircraft were 'sold' to Indonesia. Based on surviving records 22 aircraft were handed over to the AURI on 20 March 1950. These were R-50, R-51, R-52, R-53, R-57, R-58, R-59, R-62, R-63, R-64, R-66, R-67, R-68, R-69, R-70, R-71, R-73, R-75, R-76, R-82, R-83 and one unidentified aircraft that was being serviced¹¹⁴. However, some AURI sources state that 18 aircraft were put into service¹¹⁵, casting doubt over the state of 4 aircraft. Some Indonesian sources have referred to the transferred aircraft as Auster Aiglets, a type that was only flown for the first time in 1950¹¹⁶.

Commonwealth CA-6 Wackett: 21 Wacketts were transferred to the AURI although other reference sources have suggested that only 5 were transferred¹¹⁷. It is likely that they were not used by the AURI as Indonesian sources do not make reference to this aircraft type.

After 1950 AURI operated five **Consolidated PB-5 Catalinas** with serials PB-501/505. The source of these aircraft is not clear. Some Indonesian references have suggested that these were acquired from the NEI as part of the transfer agreements, with the suggestion that it may have involved as many as nine aircraft. In particular reference has been made to MLD aircraft P-208, P-209 and P-210¹¹⁸. To this one could perhaps be added, P-202, which was withdrawn at Morokrembangan, near Surabaya, on 1 June 1950.

However, aircraft operated by the MLD were not subject to the transfer agreements with Indonesia as the MLD was not considered a NEI force. In addition, the fate of all MLD Catalinas has been documented¹¹⁹ and there is no reference to any of them being transferred to the AURI. The aircraft quoted were 'withdrawn from use' at Morokrembangan. Some Dutch reference sources have described this as meaning 'broken up' whilst other references have suggested that ten Catalinas were sunk in Surabaya¹²⁰.

It is, indeed, possible that the AURI 'salvaged' some of the MLD Catalinas. The fact that these aircraft were 'salvaged' and not obtained through the transfer agreements, may have influenced them to assign new serials to these aircraft rather than adopt the former serials as did happen with the ML-KNIL aircraft. This is, however, all speculation.

To complicate matters further, one Indonesian reference source has suggested that PB-502 was originally RI-005¹²¹, which would conflict with the above mentioned date that RI-005 was written off.

On the civilian side the KLM-IIB acquired four Catalinas with registrations PK-CPA, PK-CPB, PK-CPD and PK-CPE in 1948. A further four Catalinas were obtained by KLM-IIB in 1949. They carried registration PK-CTA, PK-CTB, PK-CTC and PK-CTD. Whilst PK-CTC crashed at Poso, Sulawesi, on 8 March 1948, the other aircraft were transferred to Garuda on 28 December 1949. Their fate is not known.

Douglas C-47 was operated by the ML-KNIL, MLD as well as KLM-IIB and large numbers were handed over to the AURI and Garuda. Details of registrations and serials remain confusing as aircraft were readily switched between military and civilian authorities. Moreover the identity of some aircraft has not been determined¹²².

The AURI retained the then existing serials for the C-47s, commencing with T-437 and, after the 1950 transfers, continued to use this range going as far as T-505 (and possibly higher), including the re-use of earlier serials which had not been involved in the 1950 transfers.

Based on reference sources only T-453, T-455 and T-457 were transferred directly from the ML-KNIL to the AURI in June 1950.

Around the same time the KLM-IIB transferred the following aircraft to the AURI using the former ML-KNIL serials as the AURI serial: PK-RDG as T-437, PK-RDH as T-438, PK-RDI as T-439, PK-RDJ as T-440, PK-RDL as T-442, PK-RDM as T-443, PK-RDN as T-444, PK-RDY as T-445, PK-RDZ as T-446, PK-REC as T-449, PK-RED as T-450, PK-REF as T-452, PK-REH as T-454, PK-REM as T-459, PK-REP as T-462, PK-REQ as T-463, PK-RER as T-464 and PK-REU as T-467. PK-REG, PK-REI and PK-REK were also transferred to the AURI but their serial is not known.

The other serials used by AURI for C-47s were either aircraft for which the link between to the former ML-KNIL, KLM-IIB or MLD aircraft cannot be confirmed or aircraft which were taken up after 1950 from a variety of sources, including some which had been transferred to Garuda in 1950 and probably went to AURI at a date beyond 1950.

Of the 15 C-47s operated by the MLD with serials W-2/16, all were transferred to the AURI on 7 October 1950, except for W-12 which had crashed earlier, and W-3, W-15 and W-16, which were transferred on 15 December 1950. W-7 received AURI serial T-482 whilst the serials of the other aircraft are not known.

Evidence exists that the following serials were used by the AURI: T-447 (ML-KNIL DT-947 was written off on 10 February 1948, although other sources state it went to Garuda as PK-REA), T-451 (this may have been ML-KNIL DT-951 which went to Garuda as PK-GDA), T-458 (ML-KNIL DT-958 had been withdrawn from use in 1946); T-460 (ML-KNIL DT-960 had been withdrawn from use in 1946), T-461 (ML-KNIL DT-961 had been withdrawn from use in 1946), T-465 (ML-KNIL DT-965 was written off on 26 February 1947), T-468 (ML-KNIL DT-968 was withdrawn from use in 1946), T-469 (ML-KNIL DT-469 was withdrawn from use in 1946), T-470 (this may have been ML-KNIL DT-970 which went to Garuda as PK-REX), T-472 (ML-KNIL DT-972 had been written off on 12 March 1947), T-473 (this may have been ML-KNIL DT-973 which went to Garuda as PK-RCO), T-474 (originally DT-985 which had become NI-474 before going to Garuda as PK-GDT), T-475 (this may have been ML-KNIL DT-975 which went to Garuda as PK-RCQ), T-476 (this may have been ML-KNIL DT-976 which went to Garuda as PK-RCR), T-477 (this may have been ML-KNIL DT-977 which went to Garuda as PK-RCT), T-478 (originally DT-989 which had become NI-478 before it became PK-NDJ), T-479 (originally DT-990 which had become NI-479 before going to Garuda as PK-GDY), T-480 (this may have been ML-KNIL DT-980 which went to Garuda as PK-RCW), T-481 (this may have been ML-KNIL DT-981 which went to Garuda as PK-RCY), T-483 (this may have been ML-KNIL DT-983 which went to Garuda as PK-DPC although, based on other sources, the aircraft had crashed on 17 November 1950 at Surabaya), T-484 (this may have been ML-KNIL DT-984 which went to Garuda as PK-DPD), T-485 (this may have been ML-KNIL DT-985 which went to Garuda as PK-DPE), T-486 (this may have been ML-KNIL-986 which went to Garuda as PK-DPF), T-487 (this may have been ML-KNIL DT-987 which went to Garuda as PK-DPG), T-488 (this may have been ML-KNIL DT-988 which went to Garuda as PK-DPH), T-489 (this may have been ML-KNIL DT-989 which went to Garuda as PK-DPI), T-490 (this may have been ML-KNIL DT-990 which went to Garuda as PK-DPJ), T-491 (which was ML-KNIL DT-991 but went to Garuda as PK-DPK before going to AURI post 1950), T-492 (which may have been ML-KNIL DT-992 and went to Garuda as PK-DBA), T-502 (with no known history in NEI or Indonesia), T-503 (with no known history in NEI or Indonesia), T-504 (which was acquired in 1970) and T-505.

No details are known of the other serials in the T-437/505 range.

On 28 December 1949 the KLM-IIB transferred a number C-47s to Garuda, the national airline which was established with Dutch assistance on 31 March 1950. Garuda took over the network of the Koninklijke Luchtvaart Maatschappij - Inter-Insulair Bedrijf (KLM-IIB), along with its aircraft.

The C-47s had been registered in a number of different ranges and because of the multiplicity of registrations, lack of some construction numbers and other supporting data, the actual interrelationships of the various registrations is not clear.

Three were transferred with a new registration. These were PK-RCA as PK-DPC, PK-RCI as PK-DPK, PK-REE as PK-GDA.

PK-RCO, PK-RCP, PK-RCQ, PK-RCR, PK-RCT, PK-RCU, PK-RCV, PK-RCW, PK-RCY, PK-REX and PK-REY were transferred to Garuda without a change in registration.

Also transferred were KLM-IIB's PK-DBA which went to Garuda and became PK-DPB whilst PK-DBC went to Garuda on the same day as PK-DPD and PK-DBK as PK-DPA. In addition PK-DBE became Garuda's PK-DPF, PK-DBG became PK-DPG, PK-DBG became PK-DPH, and PK-DBJ became PK-DPH.

PK-DPC, PK-DPE, PK-DPF, PK-DPG, PK-DPH, PK-DPI, PK-DPK went to Garuda with the same registration on 28 December 1949.

Lockheed L-12 Electra Junior: based on Dutch reference sources aircraft T-301, T-302, T-303, T-304, T-305, T-307 and T-310 were transferred to the AURI in June 1950 with the same serials¹²³. As AURI sources suggest that only four were put into service, the other aircraft may have been used for spares.

Noorduyn Norseman: a single aircraft with serial T-400 was transferred to the AURI although AURI references do not make mention of this aircraft.

Noorduyn AT-16 Harvard: based on Dutch logbooks aircraft with serials B-401/406, B-408, B-410/417, B-418/419 and B-421/428 were transferred to the AURI¹²⁴. Indonesian sources quote the serials B-408, B-410, B-416, B-419, B-421, B-423 and B-429.

North American B-25 Mitchells: aircraft with serials M-329, M-346, M-360, M-365, M-372, M-378, M-408, M-418, M-421, M-423, M-433, M-434, M-437, M-439, M-440, M-444, M-448, M-449, M-450, M-451, M-456, M-458, M-459, M-460 and M-464 were transferred to the AURI¹²⁵.

North American P-51D Mustangs: according to formal records 27 were handed over to the AURI. They were H-303, H-304, H-305, H-307, H-308, H-309, H-311, H-312, H-314, H-315, H-317, H-318, H-319, H-320, H-321, H-324, H-326, H-327, H-328, H-329, H-330, H-333, H-335, H-336, H-337, H-338 and H-340. The AURI retained the numeric of the serial but changed the letter 'H' into 'F'. Whether all aircraft were actually put in service by the AURI is not clear as Indonesian records show that only 22 aircraft were put in service. The five aircraft not put in service would have been H-315, H-317, H-318, H-320 and H-337, although there is contradictory photographic evidence of H-317 as AURI's F-317¹²⁶.

Piper L-4J: between December 1949 and June 1950 the ML-KNIL transferred 61 aircraft to the AURI although it has also been suggested that seven L-4Js were transferred to the AURI in early 1949¹²⁷. Confirmed transfers (based on photographic evidence) are R-307, R-313, R-344, R-370, R-371 and R-379. Other serials are R-301, R-302, R-305, R-306, R-308, R-309, R-312, R-314, R-315, R-316, R-317, R-318, R-319, R-321, R-324, R-325, R-326, R-328, R-329, R-330, R-331, R-332, R-333, R-335, R-336, R-337, R-340, R-341, R-342, R-343, R-345, R-347, R-349, R-350, R-351, R-352, R-354, R-355, R-357, R-358, R-359, R-361, R-362, R-363, R-364, R-365, R-366, R-367, R-369, R-372, R-373, R-374, R-375, R-376, R-377, R-378 and R-380.

Taylorcraft L-2M: a single aircraft with serial R-334 was transferred to the AURI. As there is no reference to this aircraft in AURI references, it was most likely not put into use.

US War Surplus Aircraft

As indicated earlier, in 1950 Wiweko Supono (who would later head the Garuda airliner) traveled to the United States to purchase 25 North American AT-6 Harvard aircraft, 40 Vultee BT-13 Valiant aircraft, 6 Consolidated PBY Catalinas and 6 Hiller-360 UH helicopters from US war surplus.

It is not clear how many **Vultee BT-13 Valiants** were acquired by the AURI in September 1950. Some reference sources, cited above, give a range from 26 to 43 to 46 aircraft, whereas, as stated above, Supono purchased 40 aircraft.

Known serials include B-601, B-602, B-604, B-605, B-610, B-616, B-619 and B-633¹²⁸.

A Valiant is displayed in an Indonesian museum with serial B-427.

The alleged status of the **Hiller 360 UH** helicopters as 'war surplus' is strange. As the aircraft was only introduced in US military service in 1951 it is not possible that these were 'war surplus'. Neither are there any indications that the aircraft delivered to the US forces in 1951 were diverted to Indonesia. As such it is likely that these aircraft were purchased on the civilian market.

Another reference source states that ten were purchased¹²⁹. The museum in Yogyakarta displays a Hiller with serial H-101.

Indigenous Aircraft

In spite of the political situations the Indonesians succeeded in establishing the embryo of a aviation industry that eventually evolved into the current Nurtanio concern.

In 1947 Nurtanio Pringgoadisuryo constructed six gliders whilst stationed in Madiun. Based on the Ziegler design, the gliders were named NWG-1 (in which the 'W' stood for Wiweko) and were made of jamuju wood (replacing spruce), unbleached cotton (replacing aircraft linen) treated with cow's nose porridge, a local delicacy (replacing thinner). The prototype was registered as GX-001 and was also named Kampret¹³⁰. Registration and names of the other gliders are not known. The NWG-1 gliders were operationally used to select student pilots¹³¹.

This first aircraft was designed by Wiweko Supono as a small single seater. Identified as **WEL-1**, it had a span of 9.00 m, a length of 5.75 m and was powered by a Harley Davidson engine which gave it a speed of about 100 km/h. It was first flown in 1948 and was registered as RI-X.



WEL-1 (Source: TNI-AU)

Indonesian reference sources also mention a helicopter designed and built by Yum Soemarsono. Although it appears that this development was started approximately 1948, the helicopter, registered as RI-H, did not fly until after 1950¹³².

Acknowledgements

The assistance of Mr. G. Tornij of Amersfoort, The Netherlands, Mr. R. Setiawan of Yogyakarta, Indonesia, Mr. A. Sidharta of Jakarta, Indonesia and Mr. E. Hefriadi of Langford, Western Australia, is acknowledged.

References

- ¹ Ward, O.G., De Militaire Luchtvaart van het KNIL 1945-1950, p. 22
- ² HK-ML, Intelligence Overzicht No. 7, 9 Juli 1946, p.3
- ³ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, pp. 20 and 21
- ⁴ Ward, O.G., De Militaire Luchtvaart van het KNIL 1945-1950, p. 21
- ⁵ HK-ML, Intelligence Overzicht No. 14, April 1947 (?), p.1
- ⁶ Militair Overzicht van 5 t/m 11 April 1946, p. 24
- ⁷ HK-ML, Intelligence Overzicht No. 4, 1 Juni t/m 10 Juni 1946, pp. 4 and 5
- ⁸ HK-ML, Intelligence Overzicht No. 5, 21 Juni 1946
- ⁹ HK-ML, Intelligence Overzicht No. 7, 9 Juli 1946, p.3
- ¹⁰ HK-ML, Intelligence Overzicht No. 9, 22 Juli 1946, p.8
- ¹¹ HK-ML, Intelligence Overzicht No. 21, 2 December 1946, p.4
- ¹² HK-ML, Intelligence Overzicht No. 17, 8 October 1946, p.7
- ¹³ Undated report found in the Arens archives, estimated to be about October 1945
- ¹⁴ HK-ML, Intelligence Overzicht No. 9, 22 Juli 1946, p.8
- ¹⁵ HK-ML, Intelligence Overzicht No. 10, 31 Juli 1946, p.4
- ¹⁶ HK-ML, Intelligence Overzicht No. 12, 14 Augustus 1946, p.5 and 6
- ¹⁷ HK-ML, Intelligence Overzicht No. 13, 21 Augustus 1946, p.6
- ¹⁸ HK-ML, Intelligence Overzicht No. 13, 10 April 1947, p.3
- ¹⁹ HK-ML, Intelligence Overzicht No. 19, 5 November 1946, p.4
- ²⁰ HK-ML, Intelligence Overzicht No. 6, 30 Januari 1947, p.1
- ²¹ Week Overzicht Operatie, 20 t/m 27 Juli 1947
- ²² Report by Sectie 1 of LUCOJA, 2 December 1946
- ²³ HK-ML, Intelligence Overzicht No.7, 6 Februari 1947, p.1
- ²⁴ HK-ML, Intelligence Overzicht No.9, 20 Februari 1947, p.1
- ²⁵ HK-ML, Intelligence Overzicht No. 14, April 1947 (?), p.1
- ²⁶ HK-ML, Intelligence Overzicht No. 14, April 1947 (?), p.2
- ²⁷ HK-ML, Intelligence Overzicht No. 15, 15 Mei 1947, p.1
- ²⁸ Overzicht en Ontwikkeling Van Den Toestand, Regionaal LUCOJA, 30 Mei t/m 6 Juni 1947, p. 5
- ²⁹ Overzicht en Ontwikkeling Van Den Toestand, Regionaal LUCOJA, 20 t/m 27 Juni 1947, p. 9
- ³⁰ Week Overzicht Operatie, 20 t/m 27 Juli 1947
- ³¹ Ward, O.G., De Militaire Luchtvaart van het KNIL 1945-1950, pp. 282-288
- ³² E-mail from R. Setiawan, 7 October 2005
- ³³ Week Overzicht Operatie, 27 Juli t/m 3 Augustus, 1947
- ³⁴ Ward, O.G., De Militaire Luchtvaart van het KNIL 1945-1950, p. 291
- ³⁵ Ward, O.G., De Militaire Luchtvaart van het KNIL 1945-1950, pp. 291-295
- ³⁶ Ward, O.G., De Militaire Luchtvaart van het KNIL 1945-1950, p. 282
- ³⁷ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p. 48
- ³⁸ E-mail from R. Setiawan, 9 September 2005
- ³⁹ HK-ML, Intelligence Overzicht No. 16, 29 Mei 1947, p.2
- ⁴⁰ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p. 52
- ⁴¹ Pennings, M., Indonesian Air Arms – Past and Present, Air International, July 1998, p.40
- ⁴² Burgers, G.J. Het 6ARVA Squadron in Nederlands Indie 1946-1950, The Hague, 2002, p.145, 193
- ⁴³ HK-ML, Intelligence Report voor October, November, December 1948, p.3
- ⁴⁴ Overzicht en Ontwikkeling Van Den Toestand, Regionaal LUCOJA, 30 Mei t/m 6 Juni 1947, p. 5
- ⁴⁵ Anon., Kawanishi's Parasol Patroller, Air International, December 1985, p. 293
- ⁴⁶ Anon., World Air Forces - Historical Listings – Indonesia, at <http://www.worldairforces.com> (when accessed)
- ⁴⁷ HK-ML, Intelligence Overzicht No. 14, April 1947 (?), page 1
- ⁴⁸ HK-ML, Intelligence Overzicht No. 14, April 1947 (?), page 1

-
- ⁴⁹ Anon., Dari Catalina Sampai Jumbojet 747, Angkasa, August 1995, p.25
- ⁵⁰ Anon., World Air Forces - Historical Listings – Indonesia, at <http://www.worldairforces.com> (when accessed)
- ⁵¹ HK-ML, Intelligence Overzicht No. 14, April 1947 (?), page 2
- ⁵² HK-ML, Intelligence Overzicht No. 14, April 1947 (?), page 2
- ⁵³ HK-ML, Intelligence Overzicht No. 15, 15 Mei 1947, p. 2
- ⁵⁴ Eather, C.E., Syd's Pirates, Sydney, 1983, p. 77, 79
- ⁵⁵ HK-ML, Intelligence Overzicht No. 17, 3 Juli 1947, p.4
- ⁵⁶ E-mail from J. Barr, 9 July 2005, re Avro Anson
- ⁵⁷ Overzicht en Ontwikkeling Van Den Toestand, Regionaal LUCOJA, 27 Juni t/m 3 Juli 1947, p. 1
- ⁵⁸ Overzicht en Ontwikkeling Van Den Toestand, Regionaal LUCOJA, 20 t/m 27 Juni 1947, p. 1
- ⁵⁹ Anon., Seabad Penerbangan, Jakarta, 2004, p.54
- ⁶⁰ Anon., Seabad Penerbangan, Jakarta, 2004, p.89
- ⁶¹ Week Overzicht Operatie, No. 2, 27 Juni t/m 3 Augustus 1947, page 5
- ⁶² E-mail from C. van den Heuvel, 19 April 2005, re PH-TAZ
- ⁶³ Dekker, H., The Complete Civil Aircraft Registers of The Netherlands since 1920, Tonbridge, 1987, p.121
- ⁶⁴ Davies, R.E.G., Airlines of Asia since 1920, London, 1997, p.288
- ⁶⁵ Darke, S., Welcome To The World of Thai Aviation, Alphanumeric Series, at <http://www.thai-aviation.net> (when accessed)
- ⁶⁶ Dutch Intelligence Report for October, November, December 1948, p.3
- ⁶⁷ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p. 42
- ⁶⁸ Dutch Intelligence Report for October, November, December 1948, p.3
- ⁶⁹ E-mail from G. Goodall to R. Cuskelly, 12 November 2002, re Indonesian Republic Air Force
- ⁷⁰ Ladnor Maurice Moore (1914-1956), <http://www.cnac.org/ladmoore01.htm> (when accessed)
- ⁷¹ E-mail from G. Goodall to R. Cuskelly, 12 November 2002, re Indonesian Republic Air Force
- ⁷² Davies, R.E.G., Airlines of Asia since 1920, London, 1997, p.179
- ⁷³ Carl Wiss (1919-1924), <http://www.cnac.org/wiss01.htm> (when accessed)
- ⁷⁴ James H. Maupin, <http://www.cnac.org/maupin01.htm> (when accessed)
- ⁷⁵ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p. 48
- ⁷⁶ E-mail from G. Goodall to R. Cuskelly, 12 November 2002, re Indonesian Republic Air Force
- ⁷⁷ Anon.' Europe and Cold War Database, http://www.acig.org/artman/publish/article_303.shtml (when accessed)
- ⁷⁸ Dutch Intelligence Report for October, November, December 1948, p.3
- ⁷⁹ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p. 48 and 49
- ⁸⁰ E-mail from G. Goodall to R. Cuskelly, 12 November 2002, re Indonesian Republic Air Force
- ⁸¹ Dutch Intelligence Report for October, November, December 1948, p.3
- ⁸² Photocopies of unidentified Indonesian references provided by E. Hefriadi
- ⁸³ Air Britain Information Exchange, SE Asia Register, at <http://www.ab-ix.co.uk> (when accessed)
- ⁸⁴ Anon., Dua Anson dari Sumatera, Angkasa, Nov. 1999, p.11
- ⁸⁵ E-mail from G. Goodall to R. Cuskelly, 12 November 2002, re Indonesian Republic Air Force
- ⁸⁶ Macarthur Job, Air Crash Vol.2, 1992, pp. 99-105
- ⁸⁷ Brugier, P., VH registration listing, at <http://pascal.brugier.free.fr/registre/txt/vh-aaa.txt> (when accessed)
- ⁸⁸ Anon., Seabad Penerbangan, Jakarta, 2004, p.114
- ⁸⁹ Anon., No. 321 Squadron, The Illustrated Encyclopedia of Aircraft, London 1985, p. 4096
- ⁹⁰ Robertson, B., British Military Aircraft Serials 1878-1987, Earl Shilton, 1987, p.129
- ⁹¹ Anon., Pintu Gerbang Negara, TNI-AU, Jakarta, app. 2000, p.7 and p.28
- ⁹² <http://www.warbirdalley.com/news.htm> (when accessed)
- ⁹³ E-mail from D. Crick, 2 May 2005, re Avro Anson
- ⁹⁴ Dutch Intelligence Report for October, November, December 1948, p.3
- ⁹⁵ E-mail from G. Goodall to R. Cuskelly, 12 November 2002, re Indonesian Republic Air Force
- ⁹⁶ Legg, D., Consolidated PBY Catalina, Annapolis 2002, p. 55
- ⁹⁷ Update to Legg, D., Consolidated PBY Catalina. P. 141 on <http://www.catalina.org.uk/airlife.htm> when accessed
- ⁹⁸ E-mail from G. Goodall to R. Cuskelly, 12 November 2002, re Indonesian Republic Air Force
- ⁹⁹ Anon., Seabad Penerbangan, Jakarta, 2004, p.58
- ¹⁰⁰ Dutch Intelligence Report for October, November, December 1948, p.3
- ¹⁰¹ Burgers, C.J., Het 6ARVA Squadron in Nederlands Indie 1946-1950, The Hague, 2002, p. 190
- ¹⁰² Photocopies of unidentified Indonesian references provided by E. Hefriadi
- ¹⁰³ Appleton, J., Cave, I.G., British Civil Aircraft Registers, 1919-1978, Earl Shilton, 1978
- ¹⁰⁴ E-mail from G. Goodall to R. Cuskelly, 12 November 2002, re Indonesian Republic Air Force
- ¹⁰⁵ Burgers, G.J., Het 6ARVA Squadron in Nederlands-Indie 1946-1950, The Hague, 2002, p. 193

-
- ¹⁰⁶ Dekker, H., Geldof, N., Nederlandse Austers, 1983
- ¹⁰⁷ Gradidge, J.M.G., The Douglas DC-3 and its predecessors, Tonbridge Wells, 1984
- ¹⁰⁸ Douglas Production Lists, <http://home.hccnet.nl/p.w.riool/dc03.html> (when accessed)
- ¹⁰⁹ Anon., The formation of the Indonesian Air Force - A Successful Mission Impossible, Angkasa May 1999
- ¹¹⁰ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p. 68
- ¹¹¹ Anon., Pintu Gerbang Negara, TNI-AU, Jakarta, app. 2000, p.38
- ¹¹² E-mail from R. Setiawan, 9 September 2005
- ¹¹³ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p.121
- ¹¹⁴ Burgers, G.J., Het 6ARVA Squadron in Nederlands Indie 1946-1950, The Hague, 2002, p. 267
- ¹¹⁵ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p. 68
- ¹¹⁶ Anon., Pintu Gerbang Negara, TNI-AU, Jakarta, app. 2000, p.38
- ¹¹⁷ E-mail from A. Eckford, 2 August 2003, re CAC Wacketts with NEIAF/AURI
- ¹¹⁸ Legg, D., Consolidated PBY Catalina, Annapolis, 2002
- ¹¹⁹ Geldhof, N., 70 Jaar Marine Luchtvaart Dienst, Leeuwarden, 1987, App. 2
- ¹²⁰ Geldhof, N., 70 Jaar Marine Luchtvaart Dienst, Leeuwarden, 1987, p. 113
- ¹²¹ Anon., Seabad Penerbangan, Jakarta, 2004, p.57
- ¹²² Wesselink, T., Postma, T., Dakota – DC-3/C-47 onder Nederlandse Vlag, Alkmaar, 1985 (principal reference source)
- ¹²³ Casius, G.J., Lockheed L-12/212, Zwammerdam, 2003
- ¹²⁴ E-mail from B. Goethals, 22 April 2006, re Harvards
- ¹²⁵ E-mail from G. Tornij, 14 May 2005, re B-25
- ¹²⁶ Casius, G.J., Boerman, L., P-51D/K Mustang, Zwammerdam, 2003
- ¹²⁷ Pennings, M., Indonesian Air Arms – Past and Present, Air International, July 1998, p.40
- ¹²⁸ E-mail from A. Sidharta, 25 April 2005, re Harvards and BT-13
- ¹²⁹ Anon., World Air Forces - Historical Listings – Indonesia, at <http://www.worldairforces.com> (when accessed)
- ¹³⁰ Anon., Bakti TNI Angkatan Udara, TNI-AU, Jakarta, 2004, p. 111
- ¹³¹ Reminiscences of Nurtanio, Angkasa, August 2000
- ¹³² Anon., Dialah Bapak Helikopter Indonesia, Angkasa, April 1999, p.24