

INDONESIA'S TRAINING SYSTEM

Indonesia's training system

Training aircraft in the Indonesian military forces are quite interesting because the types in use are not very common. Our team visited three airbases in Indonesia to make a report about this. First of all the main place concerning training activities is Yogyakarta where the Air Force Academy is situated and at Suryadharma airbase for the helicopter training. The Navy has some trainers for own use at Surabaya.

Training Command at Yogyakarta

Who wants to fly an aircraft in the military first have to go to the Air Force Academy or Akademi Angkatan Udara (AAU) located in the ancient city of Yogyakarta in the middle of Java. Here, mainly the spirit and body are educated and of course, the principles of aerodynamics partly with computer based training (CBT) in six semesters. This all in a special setting called Tri Tunggal Terpadu or the power of the education and knowledge, involvement in military exercise or applications and the appropriate spirit combined. You may say the cadet has to show progress in these three-in-one qualities or call it a philosophy to develop the ideal talents for the next job. When leaving the AAU, the cadet is a second lieutenant. There are several possibilities to continue, even to make a career at the SESKOAU or Sekolah Staf dan Komando Angkatan Udara (Air force officers course) in Bandung, which has also an equivalent of the navy and army. Besides the own military some candidate officers of other countries (among them neighbouring Australia, Philippines, Malaysia and Singapore) followed the officer course. Who wants to be an aviator or navigator has to follow an education of aviator school or Sekolah Penerbang (Sekbang) or Arms Forces School for Pilots in Yogyakarta for more or less one and half year.

Elementary trainers

The Sekolah Penerbang (Sekbang) is located at the military side of airfield Adisutjipto in Yogyakarta named after a pilot, killed in the air in time of hostilities. The training command is called KODIKAU and comprises the two squadrons Skadron Pendidikan 101 & 102. First of all the cadet will learn elementary flying (Latih Mula) on the AS-202 Bravo of Skadron Pendidikan 101 (Skadik 101) for 60 hours. The airplanes used to be based at Adisutjipto but were relocated at nearby Adisumarmo airfield in Surakarta, however a short flight between the two airfields is a quite popular choice of instructors and you may find the Bravo also on Adisutjipto. The aircraft, which was jointly developed by FFA (Flug and Fahrzeugwerke Altenrhein) in Switzerland and Siai Marchetti in Italy and has good handling characteristics. The type is ideal for elementary training because cadet and instructor are sitting side-by-side. As many as 40 examples were delivered from 1981 but today it is believed that slightly more than 20 aircraft survived at Skadik 101. Some of the aircraft serve with FASI (Satuan Udara Federasi Aeroport Indonesia), the military aero sport club, to help experienced pilots to get their flying hours. This will also be the case with Siai Marchetti's SF-260's received from Singapore as a payment for using shooting facilities in Indonesia .

>
>

Charley for basic

Next step will be the Beechcraft T-34C Turbo Mentor, called 'Charley' among the pilots. The T-34C is in use for basic flying training (Latih Dasar) and was replaced in the advanced training role by the Korean Aerospace Industry (KAI) KT-1B Wongbee, both serving in Skadron Pendidikan 102 (Skadik 102) at Adisutjipto. The T-34C-1 replaced the T-34A and totally 25 examples were acquired between 1978 and 1984 and currently some 12 are still in service. The basic flying training involves some 120 hours, this includes also navigation flights with GPS above the sea and cadets will use a life-vest next to a parachute. Students only use an orange flying suit but when they are more experienced, it will change. We only fly with orange on Monday, Tuesday and Wednesday as the Flight lieutenants Dharma, Reza, James and Syaff A, declares and on Thursday, Friday and Saturday the tradition requires us to were green for combat missions training.

Advanced Korean trainer as a surprise

For \$ 60 million seven KT-1B Wong Bee aircraft were purchased from South Korea, and delivered between May and November 2003. It was reported that in May 2005 five additional were ordered with an option for another eight. The KT-1B Wong Bee was reported to replace partly the AS-202 and T-34C partly and as much as twenty should be necessary. This was actually not the case. When the KT-1B was introduced in the Indonesian Air Force the T-34C and bravo had another 3000 hr of life-endurance to go which is estimated some 20 years. The choice of the KT-1B seems to be remarkable, but it must be considered that South Korea ordered 10 CN-235 transports from Indonesian Aerospace in a counter trade and the South Korean trainer was just filling the Indonesian gap. The trainer looks very much like the Pilatus PC-9 with the same engine, a powerful 708 KW (950 shp) Pratt & Whitney Canada PT6A-62 turboprop. This enables the KT-1B to perform impressive. A Charley has a maximum speed of 346 km/h but a KT-1B almost doubles it to 649 km/u. This implicates that the KT-1B is made for a different segment, and that is exactly were it serves in the TNI-AU or Indonesian Air Force. Only the flying instructors from T-34C-1 are allowed to fly on the KT-1B and there is a special instructor course for captain pilots, the Sekolah Instruktur Penerbang (SIP) This course will establish a new flying instructor group. Those activities are separate from the task to train new pilots on the T-34C which continue simultaneously.

Future prospects

The KT-1B is pretty advanced with digital cockpit. This is a difference with the South Korean variant using only TACAN and has analogue cockpit lay out. The TNI-AU examples are equipped with VOR/ILS and another difference is an automatic provision for the rudder, which the Korean examples lacks. The aircraft has two Martin Baker Mk.16 ejection seats and that is feeling more comfortable compared with the T-34C without these. The airframe of the KT-1B is designed to endure exposure to 7G and aerobatic manoeuvres such as Loop and A- and B-rolls are without difficulties to perform, but also new qualities are in reach compared with the Charley. This includes hands off recovery, and performing an inverted spin or snap roll without risk. Korean Aerospace is developing new versions of the KT-1B, which might be interesting to Indonesia. One of these variants is the KO-1, a low speed armed Forward Air Controller aircraft capable of giving close air support and could be a replacement for the Indonesian OV-10F COIN aircraft, currently at the end of operational life. The KO-1 would be a fully dedicate type to the attack role with extra hard points for rocket-

launchers and equipped with chaff/flares dispensers, a HUD and FLIR-pod. The KT-1 is like the European Pilatus PC-9 a suitable trainer airplane as a lead-in to supersonic jet aircraft. At this moment, the next step is the Hawk Mk.53 for fighter training but the Hawk will soon phase out and a decision about the replacement for this type have not been made yet. For multi-engine training pilots go directly from the Turbo-Mentor on the CN-235 or F-27 and later on the C-130 as co-pilots until they progress with experience to aircraft captain. After the conversion is completed, the pilots will go to Skuadron Udara 2, 17 or 31.

Helicopter training at historical grounds

The helicopter school of the TNI-AU is located at Suryadharma air base near Subang in Western Java. The place was called Kalijati before and is a fairly historic site. At this place the Dutch surrender was signed on the 8th of March 1942, leaving Indonesia in Japanese hands. The historical room is still a museum and annually a place to remembering by for a few Japanese men who were there when it happened. Indonesia calls the house 'Rumah Sejarah' or historical house. There has been some history afterwards but in terms of aircraft and both classical helicopter types Mi-4 and AB-204B served at this base. In 1991, the Skuadron Udara 7, was established at Suryadharma, named after Suryadi Suryadharma, a legendary person started as a navigator, climbed up to the Chief-of –Staff and considered as the architect of the modern Indonesian Air Force.

Bell 47 Soloy

After leaving the fixed-wing training grounds of Adisutjipto, the course for helicopters starts with one month ground school training. Cadets will learn much about the activities on the ground such as how to let a helicopter come in and put it safely to the hangar. To adept the good skills for Search and Rescue work the pilots also receive survival training in the jungle, mountainous area and at sea. There will be a shifting between Air Force and Navy/Army pilots, while the Army has its own helicopter training facility at Achamad Yani air base in Semarang also. Navy/Army students need a 100 flying hour course while Air Force cadets only receive some 50 hrs before graduation. Initial helicopter training will start on the Bell 47 G-3 received from Australia (12) in 1978 The Bell 47 went back to Australia for modification in 1984 and were refurbished with a 420 shp turboshaft Allison engine and is called Bell 47-3B Soloy. In 2001 Skuadron Udara 7 received the modern Eurocopter EC-120 B colibri and purchased 12 examples which in some reports were thought t replace the Bell 47. The Colibri in fact is functioning not in the elementary role but side-by-side with the Bell 47 in the advanced training role. This role was I the past for the Hughes H-500 who went out of service.

Multipurpose helicopter training

The course is called Kursus Pengenalan Terbang Pesawat Helikopter (KTPH) and practical helicopter techniques in KTPH involves familiarization, fundamentals and elementary handling starting with the Soloy such as hovering, circuit, confined area, pinnacle and ridgeline, formation and instrument flying and navigation. Special techniques are training with sling load, float training, night flying and emergency flights. In nearby mountains there are locations for slope- and mountain training. Every six weeks there is a night exercise. The pilots do not use NVG but must understand the basic principals of night flying and navigation techniques. When the pilots shows progress he can continue his course with the Colibri

performing survey flight training, cross country or VIP flight training. The EC-120 is also a more suitable helicopter for a lead-in to other types like NBo-105, Bell 212 and Puma or Super Puma and much appreciated for his flying characteristics such as the low noise, thanks to the phenestron in the tail and the highly stabilized rotor system. The modern cockpit is an advantage. When leaving the course with success the TNI-AU pilots can choose to stay with Skuadron Udara 7 or go to Skuadron Udara 6 & 8 based at Ateng Senjaya in Bogor to fly on the Puma, Super Puma or the refurbished Puma (with the new Makila engine) which is called Puma Super in TNI-AU. Another possibility is to go to Halim in Jakarta for the VIP Super Puma's of Skuadron 17 or to serve with military SAR/Air Ambulance units of BASARNAS on NBo-105. Before going to the units, pilots need some 30 hours training on the Colibri and after this some 30 hrs conversion at the unit.

Naval aviation training

The TNI-AD or army aviation (Tentara Nasional Indonesia- Angkatan Darat) has located in Semarang the Sekolah Penerbang (Semarang Flying School) where pilots have the possibility to learn and train elementary on the Schweizer H.300C and follow-on transition course on the NBo-105 and Bell 412. Fixed Wing training is in cooperation with the Air Force aviation schools in Yogyakarta and Squadron pendidikan 101 & 102 of TNI-AU. Finally the naval aviation has their own academy in Surabaya, their own flying school, called Sekolah Penerbangan (SENERBANG) and their own trainer aircraft. Who walks on the ramp of the military side of Juanda air base (or Lanudal Juanda) will find besides three Colibri helicopters some very modern European manufactured light training aircraft. Some five EADS/Socata TB-10 Tobago and 4 TB-9 Tampico trainers will give the young pilots preparation for the several naval fixed wing aircraft. The Socata trainers are well appreciated by the pilots and both types are almost the same with the difference of the Tobago having a more advanced propeller. But for those who want to train in a classical way there are a few Beechcraft Bonanza F-22's. The Colibri's are acting in the more specialised helicopter training because basics were received at Suryadharma including the naval floating and SAR Techniques. All this specialised training aircraft are flying with Skuadron Udara 200 but in the squadron we also find the regular aircraft for transition and conversion, while pilots do have the opportunity to train with the FRASCA fixed base simulator when required.

Kees Otten & Wim Das
Dutch Aviation Support