Hugh Grundy, Vice-President Technical Services, in 1954

1) From the beginning to the reorganization of the Company in the mid-fifties

Maintenance of company aircraft
Besides scheduled and charter air services, contract work, and secret missions, there was a fourth type of activity, in which CAT was involved since the early days, and that was aircraft maintenance done for the U.S. Air Force. Already in Mainland China, CAT had had its own repair shop: the S.S.Chung, a former US Navy Landing Ship Tank (LST). Since February 1949, the LST floated on the Whampoo River near Shanghai, then navigated to the Pearl River near Canton, and finally escaped to Hong Kong, from where it was salvaged to Taiwan, together with an auxiliary barge called the Buddha that had been acquired at Shanghai in March 1949.1 Together with some Quonset huts and other constructions, all this formed a fully equipped machine shop, including paint, fabric, hydraulic, electric, woodworking, plating, print, instrument, and propeller shops, as well as ward rooms and sleeping quarters for the hundreds of Chinese working there.

1 Smith, China Pilot, p.131; Leary, Manuscript, p.88, in: UTD/Leary/B19F1.
CAT’s LST *Chung 118* at Kaohsiung in early 1951: front, deck, and Quonset huts
(*CAT Bulletin*, vol. IV, no. 3, April 1951, pp.7 and 8)

In 1952, the barge *Buddha*, which had mainly been used as storage room and which had also anchored at Kaohsiung in early 1950, had received some modifications of the superstructure:

In early 1953, the LST *Chung* and the barge *Buddha* were still a very important part of CAT’s technical services, as the following pictures of the *Chung* demonstrate:

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2 All photos are taken from the article “LST keeps Chennault line flying”, by George L. Christian, in: *CAT*
Machine Shop

Hydraulic Shop

Instrument Shop

Welding Shop

Propeller Shop
But it was a former Japanese Air Force experimental base in southwestern Taiwan that was to become CAT’s main maintenance base over the years: Tainan. As early as on 1 July 49, CAT had opened a new station at Tainan.\(^3\) In November 1949, CAT had built up a small maintenance facility at the airfield. Just before leaving Hong Kong in December 1949, Willauer had hired the former CNAC chief engineer, Hugh L. Grundy, as director of maintenance. This meant, that CAT now had the capabilities to set up an efficient Engineering Department, but there was very little flying business.\(^4\) Tainan was also the place where in early 1950, all but one of the nine CAA planes were stored for pickling.\(^5\) In these early months of 1950, Civil Air Transport had five addresses: The main offices were still in Hong Kong and moved to Taiwan only by mid-April 1950.\(^6\) Since late December 49, the center for flights operations, with dispatching weather, and chief pilot’s offices were at Taipei’s Sungshan airport on Taiwan.\(^7\) Engineering had 2 different addresses: CAT’s LST, the Chung 118, had left Hong Kong for Sanya in November 49, then left Sanya in January 50,\(^8\) and since then docked at the port city of Kaohsiung on Taiwan, 185 miles south of Taipei. “Meanwhile, engineering personnel set up line maintenance at a former Japanese airstrip at Tainan, twenty-six miles away, and began the tedious job of preserving CAT’s numerous unemployed aircraft.”\(^9\) So, in early 1950, Tainan had become the storage place of the majority of CAT's aircraft and also CAT’s new maintenance facility.

At the beginning, things evolved only very slowly at CAT’s new maintenance facility at Tainan. Dave Hickler recalls: “I was permanently transferred to Taiwan on the 13th of January, 1950, and a new life began. We set up an aircraft maintenance base at Tainan, in the southern part of the Island, in a bombed out hangar, and my supply base was located in three tents.”\(^10\) On 10 February 50, CAT’s Joe Rosbert reported that takeover of CNAC and CATC assets had not been completed, that the disposition of all building properties had not yet been made, and that the Quonset hut erection program was almost at a standstill: “The purchase of 40 Quonset huts (supposedly) in the United States has turned out to be a sad story. [...] First of all, the huts were not in the original crates, but were repacked. Many, many items were missing. What is worse we only have enough of all items to guarantee the erection of 20 huts.”\(^11\) On 17 February, Rosbert added: “The Engineering Department will take about 45 former CNAC employees to be stationed at Tainan. This Department is still hampered by not having the use of the Quonset huts. So far only one double hut could be erected due to the lack of funds.”\(^12\) One month later, the situation had made some progress: “All Quonset huts at Tainan have been completed as planned as necessary to house the Departments and Shops; but the niceties, such as partitions, counters, painting, insulation, etc. will have to be delayed until money is available. There are a total of eighteen (18) single huts in use. A request has been submitted to erect three more single huts for Supply. This project will be started when money is provided. [...] All shops on the tank deck of the LST and those at the Tainan airfield are functioning smoothly with what equipment, parts, and materials are available.”\(^13\) Finally,
on 10 April 50, CAT’s Tom Sommers could tell CAT Bulletin: “The CAT base at Tainan is really beginning to look like something. Quonset huts have been erected and equipment installed. Chief Engineer Hugh Grundy is going ahead with the development of an Engineering department that will keep CAT aircraft in the best of condition… The LST, now anchored at Kaohsiung along with the barge Buddha, is supply base for Tainan. Communications has established voice contact between the two cities: a big help toward smoother and better coordinated operations… The Operations Building housing Communications, Weather and Operations has been finished and these activities are now in full swing. Electricity is yet to be installed. The Terminal Building, complete with easy chairs and Customs Service, is also open. Traffic operates from the Terminal.”

As has been described elsewhere, most of CAT’s aircraft as well as all of the CAA-owned C-46s had to be “unpickled” for Booklift service during the second half of 1950, and the C-46s loaned from the Chinese Air Force destined for Booklift service also had to be refurbished at Tainan – all together a herculean task for Hugh Grundy and his men. However, it was not until mid-1951, that the Tainan facility was largely expanded due to the requirements of the Korean War. The following photos were published in March 1952, but were probably taken in the second half of 1951 or in early 1952 – all CAA-owned C-46s already show the new registration numbers they had received in or around June 1951, i.e. with a B- instead of an XT- country prefix and with a 100 added to their individual registration number, i.e. for example B-130 instead of XT-30.

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15 See the file CAT and Air America in Japan within my The History of Air America.
16 The CAA-owned C-46s had already been “pickled” at Tainan in January 1950, and in early April 50, General Chennault reduced CAT’s active fleet to 6 C-46s and 1 C-47 (Leary, Perilous missions, pp.100 + 107).
In 1954, the CAT Department of Technical Services at Tainan and Kaohsiung headed by Hugh Grundy, Vice-President for Technical Services, had three major divisions: Aircraft Maintenance, General Maintenance, and Supply. The Aircraft Maintenance Division was headed by Director A. Wueste, the General Maintenance Division was under direction of W. F. Henderson, and the Supply Division was temporarily supervised by VP Hugh Grundy, although W. R. Hose as Supply Manager and George Morrison as Assistant Supply Manager ably bore the brunt of the work load. In the Aircraft Maintenance Division were Planning, Inspection, Aircraft Service and Shops Departments. The General Maintenance Division included Electronics, Automotive Maintenance, Construction and Marine Departments. The Supply Division included Control, Stores, Shipping and Receiving, Far East and United States Procurement. “The mechanical perfection of CAT aircraft, the envy of every airline in the Orient, is the direct results of the efforts of every man and woman in TS. In addition to maintenance of CAT aircraft, CAT TS operation won the first aircraft overhaul contract ever granted outside the United States by the US Air Force. On any day you walk around the ramp and main hangar at Tainan, you might see USAF C-54’s, C-119’s, PBY-5A’s, C-46’s and C-47’s, as well as CAT airliners and occasional Chinese government aircraft. These planes will be in every stage of work, from a complete overhaul with wings, engines, instrument panels,
landing gear and interior fittings removed and parceled out to various functions in TS, to replacement of the last section of engine cowling prior to test flight.”

“Because of the geographical distance between Tainan-Kaohsiung and the major manufacturing centers of North America and Europe, CAT Tech Services is forced to produce many items of aircraft equipment that most airlines procure from sub-contractors. For instance, those plastic, luminescent seat numbers on CAT aircraft are entirely produced, cut, etched, and drilled in the plastics shop on board the LST. Another money and time saving operation on the LST is the ingenious CAT-built carburetor exerciser and flushing machine. Each carburetor, during its regular maintenance period, goes through this operation which has reduced from a maximum of one and a half days to about three hours the time necessary to test the carburetor for restoration to service. The carburetor is flushed clean, then ‘slushed’ with inhibiting fluid to prevent any corrosion. Then the carburetor is operated through the complete cycle of simulated flight conditions with meter recordings showing performance at all power settings. This is just one of dozens of operations performed by Tech Services.”

During the same time, the Tainan personnel had been increased from about 400 in 1951 to about 1000 in 1954. On 10 August 1954, the CAT facility at Tainan became the only airframe, propeller, radio, instrument, and accessory repair station in the Far East that was approved by the U.S. Civil Aeronautics Administration. “Civil Air Transport was awarded a US CAA Certificate for its Tainan (Formosa) Maintenance and Supply facilities by Mr. Harold J. Carrick, Chief Advisor, US CAA International Field Office, Tokyo, recently. The Certificate makes CAT the first and only US CAA approved repair station in the Far East with ratings for all the following: Class IV Air Frame, Class II Propeller, Class I, II, III Radio, Class I, II, III, IV Instrument, Class I, II, III Accessory. At presentation ceremonies held at CAT’s Tainan Base, Mr. Carrick stated that he had presented similar certificates to a number of repair stations outside the USA, but, in his 24 years of service, he had never been more pleased with the combination of spirit, facilities, equipment and personnel he had encountered in CAT. He said that CAT’s Maintenance installation compared most favorably with the better installations in the US. He added that he was ‘particularly impressed’ with the enthusiasm of everyone in CAT and the remarkable way that all of its employees seemed to work together as one big happy family.”

“CAT’s four-engined DC-4s are kept very active on scheduled flights, averaging about 7 ½ flying hours per day per aircraft. A major overhaul of a DC-4, with Shops working on a one-shift basis, consumes approximately two months’ time. Obviously, the flight schedule and the overhaul requirements, taken together, present an anomaly. Aircraft Maintenance Division, in cooperation with Operations Division and Traffic Division, has endeavored to solve the problem by breaking down the major overhaul into ten overlapping phases. Each phase of the overhaul is then combined with a routine Main Base Service and with scheduled modifications to make up a balanced service which will keep CAT’s DC-4s in top condition and as modernized as possible. Each phase of this overhaul, designated as No.4 Service, is scheduled to take place 1,250 flying hours, plus or minus 50 hours, after the preceding phase was completed. Six days, totaling approximately 4,000 man hours, is required to complete a single phase of No. 4 Service, during which time a comfortable plush passenger C-46 is substituted for the DC-4 on two minor flight schedules. Each step of the phase is broken down on a split-hour basis to eliminate any unnecessary delays. Major items, such as landing gear

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change, change of wing and empennage attach bolts, fuel tank overhaul, control system overhaul, rewiring, reupholstering of cabin and many others, are divided among the ten phases so as to make each service uniform with respect to man hour requirements, perform work at desired time intervals and avoid concentration of work in any one area. […]

“About a week before arrival of the aircraft for No. 4 Service, individual Shops and Service crews were briefed on their duties. Manager of Base Service, Ed Conway, and Manager of Airfield Shops, John Berry, set up a detailed hour-by-hour schedule for the first day’s work, which is of greatest importance. B-1002 arrived Friday at 9:10 p.m. By 9:30 p.m. routine unloading had been completed and the DC-4 was towed to a position where fuel and oil tanks could be drained and the work started. By 11:00 p.m. the aircraft was in the hangar, surrounded by work stands and various types of maintenance equipment. The crews assigned worked all night. By 7:30 a.m. Saturday, when the regular day shift came to work, both wings were off and modifications of fuel tank access doors were well in progress. Engines had been inspected and determined to be airworthy for further service. One main landing gear had been changed. All equipment including seats, galley and radio sets had been stripped out of the cockpit and cabin. The instrument panel had been removed and sent to the LST for overhaul. A modification involving the installation of a ground air conditioning duct in the aft cabin was progressing favorably. Ailerons were in the Fabric Shop for inspection and repair. Many small jobs were in progress. Work progressed without let-up for several days, including Sunday which normally is a non-working day. By Wednesday most of the major work had been completed. Wings had been reinstalled, landing gear and hydraulic system completely checked out, control pedestal partially overhauled and the ground air-conditioning ducts and valves completed. The exterior of the aircraft had been completely repainted and de-icer boots partially installed for the coming winter. […] B-1002 was test flown on Thursday afternoon and ferried to Taipei on Thursday evening.”

“The Chung 118 and its ‘sister ship’, the barge known as Buddha, were to become at Kaohsiung one of the most complete and capable machine shops in the Orient. A parachute tower was plunged 37 feet through the Chung so parachutes could be tested and repaired. In those early days of its operations on Taiwan, CAT had to furnish more than the normal ‘packaged’ operations; the Chung 118 had to be ready to make auto parts, repair toasters and refrigerators; it even had its own printing plant. Ashore, CAT had to set up its own schools and hospitals for its employees and their dependents. It was an age of ingenuity. But the era came to an end this summer [i.e. in 1961] when the functions of the Chung 118 and the Buddha started to transfer to the company’s large maintenance base at Tainan, 30 miles away, under a US$1,000,000 consolidation program that gives the Tainan installation full jet overhaul facilities. The Tainan maintenance base is ideally located in southern Taiwan where the weather is clear an average of 330 days a year. It was to this base that came the cream of Chinese aircraft maintenance skills when the mainland fell. Employing more than two-thousand workers, the Tainan installation of Air Asia, where CAT contracts for its maintenance need, has been awarded an Air Agency Certificate by the U.S. Federal Aviation Agency. In addition to handling its own maintenance, and that of the armed forces under contract, the company also handles maintenance for other airlines.”

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Maintenance done for Western Enterprises Inc

Little is known about CAT’s Department of Technical Services doing maintenance on aircraft owned by Western Enterprises Inc, but this can be explained by the fact that Western Enterprises as a CIA outfit posing as a Pittsburgh-based commercial enterprise doing worldwide export-import business and construction work did not want the world to know that they owned military aircraft. Former CAT employee M.S. Chen, who worked at Tainan as a mechanic since 1950, recalls: “All kind of images had popped up just like yesterday […] After all it was 60 years, a long long time ago, I was the youngest kid at that time and all the colleagues are few years or up to 10 -15 years older than me, and it seems that now not many are around. In March 1950, we have a group around 40 – 50 members report to duty in a week period to CAT at Tainan Airfield from CNAC […] In the 1950 -1980 period, no doubt that CAT / Air Asia was one of the biggest US owned companies in the island. The aircraft from Western Enterprises, NACC, or CEECO, they [were] just a customer aircraft input [at] Tainan, for regular maintenance. […] As I recall, in 1950 – 1955, at that period of time as an aircraft maintenance personnel, we only performed routing schedule periodically repair /maintenance on those unidentified aircraft. [They] dropped in overnight or stayed few days at Tainan – B-17, B-26, P2V, and others –, all painted in black and without any exterior marking, even no A/C number (there was a A/C no. in the maintenance document for record purpose). [We] removed all the unnecessary equipment as much as we can to lighten the aircraft weight. The aircraft would fly away or stay after work completion; it all depended on the mission needs. At that Iron Curtain / cold war era, we knew what was going on, but nobody talking about in public at least in my job working level.”

At the time being, the only document that proves that CAT’s Technical Services Division at Tainan was doing maintenance on WEI aircraft is a memo dated 23 July 53, by which CAT’s Acting Director of Operations warned the Company’s Vice-President and Assistant General Manager (VPAGM) Joe Rosbert that during his visit to Tokyo – apparently to JTAG, the CIA station at Atsugi NAS – Western Enterprises’ James Lassiter had complained about CAT not giving enough priority to carry out the work on WEI’s B-24 “018”.

As it seems, there were no negative consequences for CAT, and as can be seen in my file CAT, Air Asia, Air America – the Company on Taiwan III, Air Asia later had maintenance contracts with the NACC and with CEECO in the 1950ies and 1960ies.

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25 E-mail dated 21 August 2013, kindly sent to the author by M.S.Chen.
26 See Leary, Perilous missions, p.156.
Maintenance done for the US Military

“Civil Air Transport’s fine reputation for keeping its own aircraft in perfect flying condition eventually led to a FEALOGFOR [= Far East Air Logistics Force] contract for the overhaul and repair of the 315th Troop Carrier Wing C-46’s, which had been long in the theater and were getting more than a little worn down. The only alternative to having Civil Air Transport repair them was to fly them back to the United States, a long and time-consuming operation. The depot inspection and repair operation was based at Tainan. [...] Most of the engine and instrument work, however, was done on a pair of floating shops at Kaohsiung. [...] The ship engines were kept in workable condition at all times, so power generated from them could be utilized to run the machinery and lighting system. [...] Depot inspection and repair of the C-46’s at Tainan was handled on a production line basis. Engines, instruments, wing flaps and everything else which could easily be removed were trucked to the LST at Kaohsiung where they were completely rebuilt. Worn-out parts were replaced, either through US Air Force Supply channels, or through machining on the spot by capable Chinese mechanics. Supervision of the operation was in the hands of American maintenance experts, most of them veterans of the US Air Force or Navy.”

![USAF C-46s at Tainan](image)

“The fuselage of the aircraft was given a careful going over at Tainan, as swarms of Chinese mechanics of various grades, closely supervised, turned the beaten-up old plane into a shining example of what a new aircraft should look like. Many improved features were incorporated into each C-46 being reconditioned, so that when finished, the Commandos were literally better than new. Civil Air Transport had developed many improved wrinkles on the C-46 in the years since the plane was first built, having done more C-46 flying than any other airline. When the rebuilding work on the engines, instruments and parts had been completed at the LST, they were trucked back to Tainan and installed on the fuselage. The plane was then carefully checked by US Air Force airmen from FEALOGFOR, residing at Tainan, and then test-hopped by Civil Air Transport pilots. When pronounced perfect, and not until then, the C-46 was turned over to the 315th Wing again.”

In December 1951, CAT had signed a contract to overhaul 8 USAF C-46s, i.e. contract no. AF62(502)-183. The story behind CAT's first maintenance contract for USAF aircraft is

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that it was a by-product of CAT’s involvement in the Korean War: “When CAT Incorporated first contracted to operate in support of the United Nations Forces in Korea it was a condition of the Contract that an inspection should be made of their maintenance facilities. So it was that a party of USAF officers visited the Civil Air Transport Main Base and were suitably impressed. It was also noticeable to the USAF that the CAT C-46s engaged on the contract flights out of Tachikawa were very well-kept aircraft. By contrast, their own C-46s, which could not be spared the maintenance time needed to keep them in top condition because of the demands for tactical aircraft, were in a pretty poor way. They were, therefore, in a receptive mood when R. E. ‘Doc’ Lewis, CAT Incorporated’s Maintenance Manager, Tachikawa, approached them with a suggestion that, as the C-46s were the main USAF cargo aircraft at that period and were very badly needed, CAT could do for them what it was already doing for itself. He said, in effect, ‘Why don’t you take these C-46s down to CAT – they know them better than anyone else in the world. A radiogram from ‘Doc’ to Tainan and Hugh L. Grundy, then Civil Air Transport’s Chief Engineer was on his way to Japan to talk business. Thus it was that in December 1951 firm negotiations were opened with FEAMCOM (Far East Air Materiel Command) for the overhaul of 8 C-46 aircraft. The contract eventually awarded (for the record, number AF62(502)-183) became known in CAT as Project MS-1 and led to spreading the word about CAT maintenance far beyond the Far East and to the eventual award of a contract for the overhaul of the C-119 – the present prime USAF cargo aircraft, and a far cry from the C-46.”

“A total of 73 C-46s had been overhauled at the date when the final one left on 7 December 1954, the first contract having been immediately followed by another, known in CAT as MS-4, under which 65 aircraft were done; 26 on ‘DIR’ and 39 on ‘IRAN’. [...] Under the ‘DIR’ (Depot Inspection & Repair) system CAT completely rebuilt the aircraft, while under ‘IRAN’ (Inspection and Repair as Necessary) the work involved is less, since CAT only does such work as the USAF requires after inspection. This new work concept came into force toward the end of 1953 and applies to all work being presently done; it is the result of much study by the USAF and is designed to spare the taxpayer the cost of unnecessary work. It is of interest to note that under the USAF system of routing an aircraft for major repair every two years, 11 C-46s which had been previously DIR’d by CAT came back for IRAN. The first of these, 44-78486, left CAT after DIR on 23rd May 1952 and left again after IRAN on 22nd May 1954. It is interesting to note that the second visit was assigned to the same Crew Chief, M. T. Tye, who had been responsible for the aircraft in 1952. During the period in which C-46 aircraft were being overhauled for the USAF, the man-hours expended on the project rose from approximately 16,000 per month to a ‘top-score’ of 53,300 in August, 1954.”

“The contracts on which the CAT Main Base is currently [i.e. in the spring of 1955] engaged, known as MS-11 and MS-12, call for the IRAN of C-54 and C-119 aircraft respectively. The C-54s, being very similar basically to our own DC-4s, constitute no great problem, though by reason of the flying hours they have done, generally 10,000-12,000, they represent quite a lot of work. On the other hand, the C-119, designed in 1945 to meet an Air Force specification and, therefore, very modern as aircraft in service go, incorporates many ideas which are new to our mechanics, though the flying hours done – some 400 hours usually

31 Leary, Manuscript, p.133, in: UTD/Leary/B19F1.
means that they are still in almost pristine condition. Perhaps the major headache on the C-54s is the de-sealing and re-sealing of the integral fuel tanks when required. […] The C-119 program has introduced many problems of its own, not the least being the supply of parts, components and tools. The C-119 is a purely military aircraft and all the spares which the Fairchild Aircraft Division (its manufacturers) have produced, have been purely for the USAF. This has meant that the Supply Division has had to set up a new warehouse building for Government Furnished Parts and work a new system of ordering supplies into its normal routine.”

In early 1955, CAT’s Tainan facility took delivery of the USAF’s first C-119G – “055” – for IRAN.

"It has been calculated that to fly a C-54 to the States for IRAN and back would cost about US $10,000 and it may be assumed that a C-119 would cost about the same. Also it is believed that the overhaul costs in Taiwan are such that US $2.00 will buy as much or more work as US $5.00 in the USA. There is thus a very great incentive for FEALOGFOR to have work performed in the Far East provided there is available a company capable of doing the work to the exacting standards of the USAF. R. C. Reed, Fairchild Technical Representative assigned to CAT on this contract, stated recently: ‘When the Company called me about this new assignment, I was at an Air Force Base where there were quite a few men who flew the original C-119s over here in 1950. Everyone of those men had nothing but praise for the work that CAT had done on the C-46s.’ And he further remarked, ‘It’s a little unusual for all Air Force personnel to have nothing but good to say about aircraft maintenance.’"

"A program to modernize engineering training classes got underway in early 1953 when a Quonset hut was set aside on the Tainan airfield for the school and necessary training aids were required. The services of specialists from various Departments were requested and in addition, two full time instructors, Mr. T. C. Koo, a graduate of Cornell University, and his assistant, Mr. Y. C. Yeh, an aeronautical engineering graduate of Berlin University were assigned to the school. The purpose of CAT’s technical services training program was threefold: First, to take in unskilled men and train them in some type of skilled labor. Second, to enable CAT employees with some experience or skill to acquire further knowledge in their field thus benefitting both the company and the individuals. And third, to bring to the attention of Supervisors and skilled workers the latest techniques, equipment and knowledge in their special fields. The Sheet Metal Shop and the Inspection Department were those most

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desperately in need of additional personnel at the inception of the training section, so courses in these categories were the first to be undertaken. [...] Undoubtedly, the biggest undertaking of the school was the familiarization program it gave for all Technical Services personnel connected with the C-119 contract. [...] Obtaining all the necessary familiarization materials from the USAF Training Unit at Ashiya, Japan, the CAT instructors mapped out a course of lectures complete with sketches, diagrams and training slides. To date [i.e. by May 1955] more than 80 people from all sections of Technical Services have attended classes on the C-119 applied to their specific field of work. Classes in this course are conducted in both English and Chinese so that all may understand clearly.”

(CAT Bulletin, vol. VIII, no.7, July 1955, p. 4)

On 17 November 1954, a USAF C-54 of the 56th Strategic Reconnaissance Squadron stationed in Japan – 42-72501 – touched down too far along the runway at Taipei and, unable to stop in time, went off the end of the runway, through a fence, across a railway and into a paddy-field. “Negotiations were opened with the USAF for a contract to do the necessary repairs and eventually a supplement to our contract for C-54 IRAN work was issued. [...] The job fell into three clear cut phases: 1. The removal of the aircraft from the paddy-field to the CAT area at Taipei. 2. The emergency repair and preparation of the aircraft for a one-time ferry flight to Tainan. 3. The repair of the airplane to USAF standards and flight test at Tainan. [...] On 19th of March, the plane left Sungshan [i.e. Taipei airport] for Tainan airfield.”

On 13 September 1955, CAT received a Letter of Appreciation from a Tokyo-based USAF unit, the 100th Air Transport Squadron (Medium):


2) From the reorganization of the Company to the early sixties

As has been described in detail elsewhere, the original CAT Inc, which had also been responsible for maintenance work performed at its base at Tainan, was reorganized in the mid-fifties in order to comply with Chinese legislation. One of the companies that came out of this reorganization of the old CAT Inc was Asiatic Aeronautical Company Limited (AACL), which was renamed Air Asia Co Ltd (AACL) on 1 April 59. Asiatic Aeronautical (Air Asia) was the official owner of all but three B-registered Company aircraft, and this company also ran the big maintenance base at Tainan. Of course, AACL’s main business remained the maintenance of all Company-owned aircraft and also to serve as a storage place for “Company aircraft” that either Civil Air Transport Company Limited (CATCL) or CAT Inc (renamed Air America Inc effective 31 March 1959) – the 2 companies that flew the aircraft – wanted to put into inactive storage. Maintenance of Company aircraft meant the periodic maintenance of all aircraft according to a certain rhythm, but also maintenance and repair in case some malfunction had occurred.

Customer maintenance

Little is known about AACL’s Customer maintenance during the late 1950s, but business with the USAF went notably down: On 26 November 57, the Executive Committee of CAT Inc and AACL noted: “The USAF has reduced the number of C-119s available for IRAN for this AF fiscal year from twenty-four to seventeen and the question was raised whether the Company should claim termination costs in view of the fact that it had a firm contract for all twenty-four. The original contract with the Air Force for IRAN of F-86 aircraft contemplated 103 and it was anticipated that an additional thirty-seven would be offered. It now appears that the total for the year will be 131 of this type aircraft, sixty-eight for rehabilitation and sixty-three for IRAN. These reductions will leave the Company maintenance facility operating well under its capacity for customer maintenance and it was noted that up to this point there have been no indications of what Air Force aircraft will be offered for maintenance during the coming fiscal year.” On 10 December 57, the situation was reviewed again, but with a more optimistic conclusion: “It was then decided that 68 of the F-86Fs offered would be put through a complete rehabilitation rather than IRAN, involving approximately 7,000 skilled man hours per aircraft as compared to 5,000 for IRAN. As a result of these shifts, it is anticipated that the plan will be fairly well filled with Air Force work for the next five or six months with the work falling off abruptly in June 1958 when the F-86Fs must be completed and delivered.” Yet, on 16 April 58, Field Management could

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37 See my file CAT, Air Asia, Air America – the Company on Taiwan I: Structure and Development.
39 On 1 March 55, CAT Inc officially transferred the ownership all but 3 of the Chinese registered aircraft (acquired on 21 August 50) to Asiatic Aeronautical Company Limited, selling them to Asiatic Aeronautical (AACL) for one US Dollar per aircraft (see the Bills of Sale photographed in: UTD/Bisson/B5, microfilm reel no.2).
40 The term “Company aircraft” means aircraft that were owned or operated by one of the 2 operating entities of the Company-complex that did the flying: CATCL or CAT Inc (Air America).
41 The Certificate of Amendment of Certificate of Incorporation of CAT Incorporated, dated 26 March 1959 and bearing the signatures of Hugh L. Grundy and Clyde S. Carter, can be found at: UTD/CIA/B2F1.
42 Minutes of Meeting of Executive Committee of CAT Incorporated and AACL of 26 November 57, in: UTD/CIA/B6F2.
43 Minutes of Meeting of Executive Committee of CAT Incorporated and AACL of 10 December 57, in: UTD/CIA/B6F2.
report “that for the period July 1957 to February 1958 the average profit on maintenance contracts was 23%”, but also “that disagreements with the Air Force as to the proper wording of the Company’s contract for rehabilitating F-86 aircraft has resulted in a delay in signing the definitive contract and a corresponding hold-up in payments to the Company thereunder.”

In September 58, the situation was even worse: “It was reported to the Committee that the USAF contract for IRAN of C-54 aircraft had been awarded to HAEC of Hong Kong and that the USAF has withdrawn the F-100 aircraft from bid. The President recently made a trip to Air Force installations in the Far East and Honolulu in an attempt to obtain additional maintenance business as it appears that the Company’s maintenance shops will be slack by February 1959 unless additional business is found.”

In October 58, an old contract that AACL had with the US Army for Field and Emergency Maintenance of light aircraft was renewed. Yet, this was only a small contract, and so in December 58, the “backlog of customer maintenance work continues to show unused capacity starting in February 1959.” And bureaucratic problems also continued: “At the request of the USAF, the Company has been repairing C-119s for the past two months, but up to this point still has no contract with the Air Force. Work on the aircraft is continuing and efforts are being made to formalize a contract to cover it.” But there was also some light at the end of the tunnel: In December 58, AACL could also report that a new contract had been offered to maintain the small aircraft and helicopters of the 13th Air Task Force, Taipei, a contract that was to cover all types of maintenance work except IRAN on a variety of types for the USAF. And there was even more: “TCTO of 54 F-100D Aircraft: The Air Force has requested the Company to bid on TCTO (Time Compliance and Technical Order Compliance – a new maintenance concept) on F-100D jet aircraft. It is indicated that this contract may be the start of a substantial amount of new maintenance business on this type of aircraft. The Company has submitted a proposal on the same pricing basis as in former maintenance contracts of $1.90 per skilled man-hour.”

The new Fiscal Year beginning 1 July 1959 (AFFY 60) first offered some new small contracts: In August 59, AACL received from SAMAP – believed to stand for the USAF’s Southern Air Materiel Area, Pacific – 2 Requests for Proposal (RFP): RFP no. 60-13 related to the periodic maintenance and repair of 4 C-47s, 4 T-33s, 1 L-20, and various survival equipment, and RFP no. 60-14 involved periodic maintenance of 16 C-119s; in both cases, AACL proposed a price per skilled man-hour of $1.85.

The optimism of December 58 about the new contract to be expected covering F-100D TCTO maintenance had gone by September 59, after receiving the definitive contract: “The Company has received a definitive contract for TCTO work on 31 F-100 aircraft from the U.S. Air Force, with an option for the Air Force...

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44 Minutes of Meeting of Executive Committee of CAT Incorporated and AACL of 16 April 58, in: UTD/CIA/B6F3.
45 Minutes of Meeting of Executive Committee of CAT Incorporated and AACL of 9 September 58, in: UTD/CIA/B6F3.
46 Minutes of Meeting of Executive Committee of CAT Incorporated and AACL of 28 October 58, in: UTD/CIA/B6F3.
47 Minutes of Meeting of Executive Committee of CAT Incorporated and AACL of 2 December 58, p. 2, in: UTD/CIA/B6F3.
48 Minutes of Meeting of Executive Committee of CAT Incorporated and AACL of 2 December 58, p. 3, in: UTD/CIA/B6F3.
49 Minutes of Meeting of Executive Committee of CAT Incorporated and AACL of 2 December 58, p. 4, in: UTD/CIA/B6F3.
to add 209 more aircraft, because the Air Force has not yet obtained sufficient funds to finance the whole contract. The price for the work is based on a total of 240, so that, if the Air Force does not exercise its option, the work on the 31 may be performed at a loss. Assuming that all 240 F-100s are called for, this work, together with other small items now in prospect, would make a total of about 60,000 skilled man-hours per month of customer maintenance work, which is half of last year’s performance. There is some possibility of obtaining a number of F-86s for maintenance work. July customer maintenance work was down, as noted above, and August is expected to be even further down. As a result of the prospective serious decrease in customer maintenance work, 100 men have been released, and up to 100 more may also be released. Overtime has for the most part been eliminated, and an arrangement developed for shortening the work week one day to five days a week.\footnote{Minutes of Meeting of Executive Committee of Air Asia Company Limited of 10 September 59, p.3, in: UTD/CIA/B6F4.}

One of the new contracts that arrived in late 1959 was – as has been seen elsewhere\footnote{See the file CAT, Air Asia, Air America – the Company on Taiwan III: Work for the US Government within my The History of Air America.} – contract no. 59-069 between Air Asia and CEECO, which also included maintenance of the CEECO B-26s at Tainan. Another new contract that Air Asia received in 1959 was contract no. 59-054 with TV Associates for Aircraft Maintenance Services.\footnote{Jerry Fink, “Contract Administration”, memo no. ALC-62-134 dated 27 July 62, in: UTD/Fink/B2F16.}

In June 1960, Air Asia tried to improve the situation by sending the USAF a proposal for maintenance work on 202 F-100 aircraft for the coming fiscal year, i.e. for Air Force Fiscal Year 1961, beginning 1 July 60, on the basis of $1.78 per skilled man-hour. “This would make the total price per aircraft approximately $1,700, and the indications are that this Company will be awarded the contract. It is the only major maintenance contract in sight.”\footnote{Minutes of Meeting of Executive Committee of Air Asia Company Limited of 7 June 60, p.3, in: UTD/CIA/B6F5.}

Statistics weren’t good at that time: “Customer maintenance for June [1960] dropped to about 50,000 skilled man hours and is expected to go below 40,000 hours per month unless other maintenance contracts are obtained.”\footnote{Minutes of Meeting of Executive Committee of Air Asia Company Limited of 26 June 60, p.1, in: UTD/CIA/B6F5.}

In July 1960, the situation was still quite bad: “Financial, July 1960; [...] Maintenance revenue from U. S. Government maintenance contracts was only $51,000 compared with $269,000 for the same month a year ago.”\footnote{Minutes of Meeting of Executive Committee of Air Asia Company Limited of 20 September 60, p.1, in: UTD/CIA/B6F5.} But then finally, in December 60, “the increased contractual maintenance workload at Main Base indicated a favourable trend.”\footnote{Minutes of Meeting of Executive Committee of Air Asia Company Limited of 14 February 61, p.1, in: UTD/CIA/B6F6.} On 27 June 61, Air Asia reported that “solicited proposals have been submitted to the United States Air Force on an aircraft and related equipment workload amounting to approximately 1,080,000 skilled man-hours for the fiscal year 1961-62 beginning July 1, 1961. If favorable wards are made, this will represent a satisfactory customer workload of approximately 90,000 skilled man-hours per month.”\footnote{Minutes of Meeting of Executive Committee of Air Asia Company Limited of 27 June 61, p.2, in: UTD/CIA/B6F6.} In the meantime, statistics improved: “Skilled man-hours expended for contract maintenance during August 1961 amounted to approximately 97,000 compared with 93,000 skilled man-hours expended during July 1961. This is considered a satisfactory level in view of the high level of
fleets maintenance anticipated for the immediate future.”

To sum up: “For the first four months of this U. S. Government Fiscal Year, July through October 1961, Government contract maintenance operations show a profit of approximately 21%. The IRAN and modification of F-100 Aircraft for the USAF constitutes some 90% of this workload and should continue at the current level at least through June 30, 1962.”

In January 62, Air Asia was seeking a contract to perform work on the F-102 aircraft, but this would require erecting a TALCO aluminium shed for $52,000 to accommodate seven F-102s, as F-102 maintenance would be more complicated and only a short term program; and so the idea was dropped in February. At that time, plans for the extensive re-wiring of the F-100 indicated “that the F-100 work load will continue at approximately the current level through Government 1963. [...] Starting in Government 1964 indications are that the F-105 will be a candidate for contract maintenance in the Far East. [...] The eventual introduction of the F-105 should represent substantial work load for some years in the future. There appears to be reasonable expectation that the present United States Government contract work load of approximately 100,000 hours per month will continue through Government Fiscal Year 1963.”

As new Tainan maintenance facilities were essentially complete in April 62, Air Asia decided to sell the LST at current market prices, “which is expected to range from US$145,000 to US$175,000.” The China Merchants Steam Navigation Company proposed $50,000, and the Republic of China Ministry of Communications insisted on a fair price to be negotiated. In September 61, the Buddha was sold for scrap to the China Steel Corp., and on 18 October 62, the LST was sold to Hwa Yung Metal Ind. Co. Ltd. of Kaohsiung. In May 62, Air Asia decided to acquire 10 additional acres of land to be added to the 20 acres already owned, on which the Tainan Maintenance Base was situated.

On 10 July 62, Air Asia could report that the Company’s major contracts with USAF had been continued for an additional year (FY 63, i.e. 1 July 62 to 30 June 63) by formal renewal or automatic extension: “The primary USAF maintenance contract held by the Company in FY63 was AF62(531)-1728, which called for the IRAN and modification of 102 F-100 D/F aircraft at maximum revenue of $2,026,000. It was reported that the FY64 contract for such

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63 As early as 1959, George Doole applied pressure on Hugh Grundy to consolidate the 2 bases: All machine shops from Kaohsiung should be transferred to Tainan, where a warehouse and other facilities had been built by May 61 so that the move of all material from Kaohsiung could be completed in March 62 (Leary, Manuscript, pp.312-16, in: UTD/Leary/B19F3).
64 Minutes of Meeting of Executive Committee of Air Asia Company Limited of 10 April 62, p.1, in: UTD/CIA/B7F1.
68 Minutes of Meeting of Executive Committee of Air Asia Company Limited of 8 May 62, pp.3/4, in: UTD/CIA/B7F1.
work will involve only 32 aircraft. However, it is understood that some F-105 maintenance will be offered to the Company for bidding. Furthermore, there is a possibility of a 30,000 man-hour contract from the U.S. Army for light plane maintenance at Hamby AAF, Okinawa. In September 62, Air Asia submitted to CEECO an IRAN and modification proposal involving their B-26s, expecting that CEECO would postpone decision until it would be clear if this was desirable at that time. The question was still open in October: “CEECO has not yet replied formally to the Technical Services proposal of 4 September 1962, concerning repair and modification of their aircraft, and CEECO has indicated they may dispose of all their B-26 types.” Then CEECO requested certain revision of the original proposal for the repair and modification of their aircraft.

In February 63, the USAF sent Air Asia a request to submit a proposal for the provision of services and material to accomplish IRAN of 12 C-123s. In June 63, “the Executive Committee was informed that the US FAA Pacific Region has awarded a one-year contract (No. FA-HA-429) to the Company for the maintenance and modification of two Convair AT-29C and one or more Douglas C-54 or Lockheed L749A type aircraft at Tachikawa, Japan, and Tainan, Formosa. A preliminary estimate of the contract’s maximum revenue is $50,000.” In September 63, “Customer aircraft maintenance was down 24% with 94,000 skilled man-hours reported for September as compared with 124,000 in August 1963. This decline was probably due to the changeover to F-105 aircraft maintenance.” In October 63, it was again up 45% with 136,000 skilled man-hours, and in November 63, Customer aircraft maintenance was at 148,000 skilled man-hours.

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70 Minutes of Meeting of Executive Committee of Air America, Inc of 11 June 63, p.3, in: UTD/CIA/B3F4.
74 Minutes of Meeting of Executive Committee of Air Asia Company Limited of 26 February 63, p.3, in: UTD/CIA/B7F2.
75 Minutes of Meeting of Executive Committee of Air America, Inc of 11 June 63, p.3, in: UTD/CIA/B3F4.
76 Minutes of Meeting of Executive Committee of Air Asia Company Limited and Air America, Inc of 29 October 63, p.2, in: UTD/CIA/B7F2.
77 Minutes of Meeting of Executive Committee of Air Asia Company Limited and Air America, Inc of 3 December 63, p.2, and 30 December 63, p.2, both in: UTD/CIA/B7F2.
3) From the early sixties to the end of the War in Vietnam

Maintenance and Modification of Company aircraft

Of course, maintenance and repair of Company aircraft continued to be Air Asia’s main job. All Company aircraft continued to undergo periodic inspection programs, and newly acquired aircraft had to be tested and adapted to Company standards. Especially since Air America had become involved in Laos, many aircraft arrived at Tainan that had been shot at or had crashed, and whose repair was not possible at Air America’s maintenance facility at Udorn that had been built up since the early sixties. An article in the Air America Log entitled “Tainan Tackles, Tough, Ticklish Tasks” gives a portrait of Air Asia’s activities in 1968. “Air Asia’s large maintenance and overhaul base at Tainan, Taiwan, provides solid and capable back-up support to its owner, Air America, Inc. AACL’s support for AAM covers such areas as aircraft overhaul and repair, component overhaul and repair, procurement, supply and mechanic training. Air Asia’s Aircraft Maintenance Division performs heavy maintenance on Air America’s large twin-engine equipment such as C-46s, C-47s, and DHC-4A Caribous. Moreover, its facilities have the capability of handling each of the 13 types of fixed-wing and three types of rotary-wing aircraft operated by AAM. In addition, this Division rebuilds and repairs any airframes damaged as a result of the rugged flying conditions to which Air America aircraft are sometimes exposed. The Shops Division of Air Asia overhauls and repairs all Air America aircraft components not handled by AAM in the field. Components going through AACL’s shops range from shaft turbine, turboprop and piston engines, to propellers, to instruments, to electronic ‘black boxes’, to landing gear, to wheels and brakes. Air Asia’s Technical Training Division operates a continuing training program for aircraft mechanics. Many of Air America’s mechanics have gone through and graduated from TTD’s training courses – along with mechanics from other organizations. Courses given by the Technical Training Division run the full gamut of an aircraft and power plant training school. Air Asia’s highly skilled personnel and its modern shops – well supplied with the latest aircraft maintenance tools and equipment – are vital to AAM’s flying operations throughout the Orient and Southeast Asia. Nowhere else in this part of the world could such competent and complete support be given to AAM’s men and machines.”

Even the restoration of Company aircraft that had seemed to be write-offs to flyable status became business as usual for Air Asia. A famous example was that of Air America Caribou “393”: On 6 March 66, “393” made a crash-landing at Ban Na (LS-15), Laos, due to inadvertent prop reversal, causing substantial damage, but resulting in only 1 minor injury.

Caribou “393” after the accident at Ban Na (LS-15) in 1966, photos taken by Joe Hazen (with kind permission from Joe Hazen)

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When it had been repaired at Tainan, it looked like new and served to illustrate Air Asia’s maintenance capacities in the article quoted above.\textsuperscript{80} One might ask how such a wreck can be transported from Laos to Taiwan. The answer is given by the accident and repair of another Air America Caribou. On 21 May 69, Caribou “392” had been parked at Ban Muang Ngan (LS-236), Laos, but then the parked aircraft began to roll down a steep slope, coming to rest among trees 50 feet below runway level and 150 feet from its point of departure, causing substantial damage.\textsuperscript{81} Originally, it was not to be rebuilt,\textsuperscript{82} so that it was not yet repaired on 15 June 69.\textsuperscript{83} But then it was recovered by a US Army Sikorsky Skycrane\textsuperscript{84} and flown to Udorn, from where it was transported to Tainan.

Two moments in the history of Air America Caribou “392” in 1969:

Hanging from a US Army CH-54 Skycrane after the accident (courtesy of the Air America Association) and completely restored at Udorn (with kind permission from Judy Porter)

During the sixties, many local and regional Air America maintenance centers were created so that part of the maintenance work on Company aircraft – routine and light maintenance – shifted from Tainan to these centers. At Tachikawa, Japan, some maintenance had always been done since the beginning of the Korean War in 1950, but the importance of Tachikawa maintenance went down over the years and activities ended, when Air America operations shifted from Tachikawa to Yokota in November 1969.\textsuperscript{85} Bases of Air America aircraft like Saigon, Vientiane and Udorn received their own maintenance centers, and some maintenance was also done at Air America stations inside these countries. The reason for this increasing decentralization of Air America’s maintenance activities was that ferry flights to Tainan were considered to be too expensive.

Saigon had had a small maintenance facility for CAT aircraft since the early 1950s, but “since early 1968 – after a brief interruption by the wrenching Tet crisis – the expensive ferrying of aircraft to Tainan, Vientiane, Bangkok and Udorn for periodic No. 4 and most of the No. 3 maintenance services has been cut from an average of 22 monthly round-trip flights

\textsuperscript{80} See the article entitled “Tainan Tackles, Tough, Ticklish Tasks”, in: \textit{Air America Log}, vol. II, no.1, Jan. 68, p. 1, where the wreck of “393” and the restored aircraft are depicted together.

\textsuperscript{81} XOXO of 21 May 69, in: UTD/Hickler/B25F9; Accident report, in: UTD/Hickler/B24F2; photos of the accident can be found in: UTD/Wharton/B1F6, and in the John Anthony collection preserved at TTU.

\textsuperscript{82} Minutes of Meeting of Executive Committee of Air Asia Company Limited and Air America, Inc of 27 May 69, in: UTD/CIA/B8F3.

\textsuperscript{83} Flight Operations Circular of 15 June 69, in: UTD/Hickler/B8F7B.

\textsuperscript{84} See the photos at \url{http://air-america.org/ImageLibrary/ImageGallery1.shtml}.

to only seven. Machine shop work, magnaflux and x-ray inspection, and weight & balance
determination – all formerly done by other organizations, have become in-house functions.
Supply, now with six times its former space, is less dependent upon instant reaction to its
umbilical pipeline from Tainan. General maintenance, thanks to such new facilities as
enlarged carpentry and auto maintenance shops, no longer farms out its work. Big strides have
been taken in the overall training effort among AAM’s ground employees, particularly among
hundreds of Vietnamese."86 As to the Air America stations in South Vietnam, AAM
personnel at Nha Trang, South Vietnam, for example, performed all routine maintenance on
the fixed-wing aircraft assigned to the station.87 "Early in 1969, John Carter, Supervisor
Regional Maintenance Department, Saigon, and a crew of maintenance and supply personnel
from Saigon arrived at Can Tho with a minimum of supplies and equipment to set up an
aircraft maintenance operation there."88 All of these facilities were closed or even abandoned
when Air America left the country in April 75.

In Laos, maintenance facilities had been built at Vientiane, Long Tieng, and Sam Thong:
Sam Thong had an open maintenance hangar, but was overrun by the Pathet Lao in 1970.89

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89 William C. Yarbrough, “Sam Thong Station,” in: Air America Log, vol. III, no.6, 1969, pp. 4-5; Ramsey et
terminated by 1 May 74, and maintenance was transferred to Udorn personnel.\textsuperscript{90} For the biggest Air America maintenance base for operations in Laos was outside the country, that is at Udorn, Thailand. Back in 1961, Udorn had only been the base of Air America’s helicopter operations to which some special fixed-wing aircraft were later added. Maintenance of these helicopters had always been done at Udorn – between March and October 61 with the help of the US Marines’ MABS-16 from Okinawa.\textsuperscript{91} In 1964, Udorn became home of Water Pump, the USAF unit deployed to train Lao pilots to fly the T-28. Maintenance of the RLAF T-28 was initially done by the USAF’s 432\textsuperscript{nd} Support Group,\textsuperscript{92} but then by Air America’s Maintenance Base at Udorn. As Jack Forney, who had been in charge of the Air America maintenance at Udorn, says: “The AAM operation at Udorn provided all heavy maintenance and almost all intermediate maintenance for the entire RLAF fleet during the period in question [i.e. the 1964-69 period]. In the case of the T-28s, we provided the heavy and intermediate maintenance at Udorn and at Vientiane and up country Laos (LS-20, et al). For the RLAF H-34s, we contracted with Air Vietnam (because of political considerations) for the periodic heavy maintenance operations conducted at Saigon, but virtually all other H-34 maintenance was performed at Udorn. For the O-1s all maintenance was performed at Udorn, though the T-28 pilots and USAF support personnel were to accomplish daily maintenance up country.”\textsuperscript{93} In 1972/73, Air America also reconstructed 14 former US Navy and US Marines UH-34Ds at Udorn and delivered them to the TNI-AU or Indonesian Air Force. This was called “Project Peace rotor”.\textsuperscript{94} So Air America’s Udorn Base became the Company’s largest maintenance facility for customer maintenance outside Tainan – until it was sold to the Thai-Am Corporation in June 1974.\textsuperscript{95}

As to Tainan, there were also some conversion programs of Company aircraft. The first conversion program involved 10 of the C-45s, which were converted to “Ten-Two” between 1963 and 1965. Although the engine remained the same, a P & W R-985 with 450 b.h.p., the new aircraft had a maximum take-off weight of 10,200 lb. (hence its name “Ten-Two”), including a useful load of 3,350 lb., which allowed it a range of 915 s. m. This increased performance was achieved by a power plant modification, a stabilizer incidence increase, new gear doors, and aerodynamically improved wing tips.\textsuperscript{96} A total of 7 Beech C-45s was converted to Ten-Two in 1963: N7950C and N7951C (both acquired in 1960), N137L, N9521Z, N5269V, N6622C, and N9573Z. Two more conversions (N5454V and N343T) followed in 1964, and N77Y was converted to “Ten-Two” only in 1965. In 1967, 2 Beech 18s were bought that had already been converted to “Ten-Two” before: N21412 and N51259, bringing the total to 12 “Ten-Twos” that were ever in service with Air America.\textsuperscript{97}

\textsuperscript{90} Minutes of Meeting of Executive Committee of Air Asia Company Limited and Air America, Inc of 11 April 74, in: UTD/CIA/B10F1.

\textsuperscript{91} George R. Hofmann, Operation Millpond. U.S. Marines in Thailand, 1961, Quantico, VA (USMC) 2009.

\textsuperscript{92} E-mail dated 14 June 2009, kindly sent to the author by Col. Al Shinkle.

\textsuperscript{93} E-mail dated 2 April 2002 kindly sent to the author by Jack Forney.

\textsuperscript{94} For more details see the file Sikorsky UH-34Ds, part 2, in my The Aircraft of Air America.

\textsuperscript{95} AAM’s Udorn operations were phased out on 30 June 74 and turned over to Thai-Am (Minutes of Meetings of Executive Committees of Air America Inc. and Air Asia Co Ltd of 30 April 74, in: UTD/CIA/B10F1; Castle, At war, p.119).


\textsuperscript{97} For details see the Beech 18 file within my The Aircraft of Air America.
The next 2 conversion programs were carried out in 1966 and 1967. In January 1966, Air Asia wanted to buy 213,000 square feet of additional land for the Tainan Maintenance Base at a cost of $37,650 and to negotiate for the purchase of another 1,162,000 square feet of land from the Tainan Sugar Company, but the Executive Committee expressed the view that the purchase of additional land for the possible future expansion of the Tainan maintenance facility could not be justified at this time. In April 1966, Air Asia signed a contract with Volpar for the purchase of 3 Garrett turbine engine kits and 3 tricycle landing gear kits. The contract also granted the Company a distributorship for the tricycle landing gear kits and a dealership for the turbine engine kits in the Far East for a 3 year period. As a consequence of this agreement, Air Asia converted a total of 14 Air America C-45s to Volpar Turbo Beech aircraft between April 1966 and March 1967. The 2 Garrett TPE-331-47 turbo-prop engines of the Volpar gave it a maximum take-off weight of 10,286 lb., including a useful load of 3,886 lb., a true air speed of 245 mph. and a range of 1,040 s. m.

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98 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 9 February 66, in: UTD/CIA/B8F1.
99 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 13 April 66, in: UTD/CIA/B8F1.
100 *Air America Log*, vol. II, no. 5, 1968, p. 1. Six conversions to Volpar were approved on 23 March 66 (Minutes of Meetings of the Executive Committees of Air Asia Co Ltd. and Air America Inc. of 23 March 66, in: UTD/CIA/B8F1); the first conversion to Volpar (N7695C) was completed on 15 June 66, the second (N6154U) on 25 June 66. Both aircraft arrived at Saigon after conversion on 28 July 66 (Minutes of Meetings of the Executive Committees of Air Asia Co Ltd. and Air America Inc. of 25 May 66, 15 June 66, and 3 August 66, in: UTD/CIA/B8F1).
In April 1966, Air Asia reported that “a contract for the purchase of eight Garrett powered Porter aircraft and six conversion kits for the conversion of Porter aircraft to Garrett turbine engines had been signed with Fairchild Hiller Corporation. The contract also provides an option for eight additional Garrett engine conversion kits. […] Two of the Garrett engine conversion kits have already been delivered and the remainder are scheduled for delivery one
by April 30 and two more on or before May 27, 1966.** On 4 May 66, PC-6A N392R was at Tainan for conversion to Garrett-powered PC-6C,** with the remaining Astazou-powered PC-6A to be converted to Garrett-powered PC-6C over the following couple of months.

Other modifications involved a number of PC-6C Porters in the early seventies. As the tail wheel was the most sensitive part of the aircraft, when it landed on rough terrain – there were Porters that came home with a bamboo stick at the place of the tail wheel –, some Porters had a deflector bar installed in front of the tail wheel – nicknamed the “Air America cowcatcher”. Some PC-6C Porters had big hi-flotation wheels like N3612R in the photo above and some Porters even a drop door installed.

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**Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 27 April 66, in: UTD/CIA/B8F1.**

**Status of Aircraft** as of 4 May 66, in: UTD/Hickler/B1F2.

**Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 6 April 65, in: UTD/CIA/B7F4.**

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101 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 27 April 66, in: UTD/CIA/B8F1.
103 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 6 April 65, in: UTD/CIA/B7F4.
Customer maintenance

As has been seen above, the contracts that the Company had with the NACC and USATG for PBY and C-47 flying always included maintenance of the aircraft involved. Contract no. N-(713)55-169-4-63 between the NACC and Air America, believed signed in 1962 covering NACC Maintenance was provisionally to be terminated on 30 June 65, with continuations requested until finalization. But probably effective 1 July 64, it was replaced by contract no. N-(713)55-169-7-65 between the NACC and again Air America. The complete list of Air Asia’s customer maintenance contracts for fiscal years 1964-66 can be seen below:

List of Air Asia Customer Maintenance Contracts for Fiscal Years 1964-66, (UTD/Bisson/B5, microfilm reel no. 28)

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104 Memorandum “Aircraft Liability Insurance”, by Jerry Fink, dated 11 October 61 (UTD/Fink/B2F15); Acquired in “50/10”, that is in October 61 according to Air Asia’s Statement of Property of 31 March 65 (in: UTD/CIA/B26F5); the US registration N63376 was cancelled on 13 October 61 (Status as of 5 April 74, in: UTD/CIA/B56F4); owned by Air Asia (Aircraft status as of June 62, corrected to Sept. 63, in: UTD/Kirkpatrick/B1F1); Aircraft status of C-47A msn 13817 as of 28 March 74 (UTD/CIA/B56F4); List Aircraft status as of 7 July 64 (UTD/Kirkpatrick/B1F1).

105 USATG memo of 10 March 67 (in: UTD/Bisson/B5, microfilm reel no.24) makes clear that contract no. N-(713)55-169-7-65 was “for C-47 maintenance”.

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The first contract mentioned in this list – contract no. AF62(531)-1766 covering IRAN (Inspection and Repair as Necessary) and modification of F-100s – was terminated, when Air Asia completed the repair and modification of its 738th F-100 aircraft for the USAF on 4 April 64. There was also a small contract covering light aircraft maintenance in Fiscal Years 1964 (AF62(531)-1778) and 1965 (contract no. AF62(531)-1823). And there were 3 contracts that had the form of Basic Ordering Agreements, to which funds had not been allocated in advance, but had to be allocated per each order: For Fiscal Year 1964, contract no. AF62(531)-1797 included B-26 repair, C-47 IRAN, C-123 repair, and drop tank repair. For Fiscal Years 1965 and 1966, contract no. AF62(531)-1806 included F-105 CBD (crash / battle damage) repair, F-105 Safety Pack I Modification (153 each), F-105 Safety Pack II Modification (157 each), fuel cell repair, EC-121 corrosion control and component repair, C-118 IRAN, F-101 fuel cell repair, RF-101 camouflage painting, and U-10B CBD repair. This contract was supplemented by another Basic Ordering Agreement in Fiscal Year 1966: Contract no. AF62(531)-1862 also included F-105 CBD repair, but besides this C-123 nose gear repair, F-100 shipping cradles manufacturing, and EC-121 component repair.

USAF EC-121s at Tainan in 1968
(photo kindly submitted by M.S. Chen and E. Ping Chiang)

The next group of contracts mentioned in the list refers to Air America maintenance to be performed at Tachikawa Air Base, Japan: MATS Aircraft Turnaround Maintenance was performed by Air America at Tachikawa Air Base in Fiscal Years 64, i.e. 1 July 63 to 30 June 64 (contract no. AF62(531)-1790), 65 (contract no. AF62(531)-1828), and 66 (contract no.

106 Minutes of Meeting of Executive Committee of Air Asia Company Limited and Air America, Inc of 28 April 64, p.4, in: UTD/CIA/B7F3.
AF62(531)-1875). The next 2 contracts mentioned in the list – N-(713)55-169-4-63 and N-(713)55-169-7-65 – have already been dealt with: They cover maintenance of the PBYs and C-47 working for the NACC and then the USATG and, as the amount is quite high, probably also the C-123s used in the training programs for RoCAF pilots – hence Detachment 10, 6003rd Support Squadron, USATG, is given as the customer. The contracts with the US Army’s Composite Service Group (CSG), that is the CIA station on Okinawa, are very interesting: To the one covering Fiscal Year 1964 – contract no. DA92-321-FEC-1863 – funds of $100,000 have been allocated, while for Fiscal Year 1965 – contract no. DA92-321-FEC-2354 – funds of what seems to be only $18,000 are noted. During that time, Air America’s own contract with the CSG was for flying services on a call basis only, and Southern Air Transport’s flights under the provisions of their contract with the CSG used the same 4 Air America-owned DC-6As – N90771, N90781, N90782, and N90784 – all the time. So the notable difference of funds allocated to these 2 contracts could mean that they also covered maintenance of the CIA-owned fleet based at Kadena, and that this fleet had been reduced during Fiscal Year 1965, when the US military began their build-up in South Vietnam.

The next 3 maintenance contracts mentioned on this list clearly refer to USAF aircraft used during that build-up in South Vietnam: They covered PI (= Phase Inspections) and Drop-In Maintenance of USAF C-118s, C-123s, and U-3Bs for FY 1964 (contract no. AF62(531)-1769), 1965 (contract no. AF62(531)-1822), and 1966 (contract no. AF62(531)-1857). Possibly, the periodic inspections of the small U-3Bs (military equivalent of the Cessna 310) were performed by Air America at Saigon. The next 2 maintenance contracts on the list refer to operations in Laos: Contracts no. AF62(531)-1758 (FY 1964 and 1965) and AF62(531)-1841 (FY 1966) are 2 versions of the Air America’s famous Madriver-contract, which covered their UH-34D operation in Laos. The fact that maintenance of aircraft used under all other Air America contracts in Laos is not listed here, means that this point refers to Customer maintenance of the Royal Lao Air Force UH-34Ds that Air America performed at Udorn, Thailand – as it seems as part of the Madriver-contract.107 The next 3 maintenance contracts on the list again refer to activities in South Vietnam. While this seems to be obvious for contract no. AF62(531)-474 covering “Drop Tank Repair” (the C-123s had drop tanks), the other 2 items seem to refer to 2 flying contracts that Air America had in South Vietnam: contract no. AF62(531)-1757 and contract no. AF62(531)-1845. Since 14 December 63, Beech Ten-Two N6622C had been assigned to Saigon to fly under USAF contract AF(531)-1757 that Air America had with ARPA, the Department of Defense’s Advanced Research Projects Agency, to support defoliant and communications research.108 Hua Hin-based Beech Ten-Two N5454V and Bangkok-based Do-28 N2002F were also assigned to this contract.109 In 1965 and 1966, contract no. AF62(531)-1845 still called for Beech Ten-Two N5454V and Do-28 N2002F,110 so possibly was the successor to contract no. AF62(531)-1757.111 As these were regular Air America aircraft, there was no need to mention them in the list of Customer

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107 In January 69, 33 UH-34Ds were operated under the Madriver contract, 23 of which were assigned to Air America and 10 to the Royal Lao Air Force (Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 28 January 69, in: UTD/CIA/B8F3).

108 See the Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 11 August 64, in: UTD/CIA/B7F3.

109 Air America’s Operations Circular of 1 April 64 in: UTD/Kirkpatrick/B8F4.


111 Contract no. AF62(531)-1757 expired on 19 August 65 (Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 11 August 64, in: UTD/CIA/B7F3).
maintenance contracts—unless these 2 contracts also served to hide maintenance of CIA-owned aircraft based at Saigon or Bangkok, probably to be performed by Air America at Saigon. This would also explain the “etc.” in the description of the maintenance. The 2 flying contracts only called for the 2 Air America aircraft types mentioned in this description: the Ten-Two and the Do-28. So what did the “etc.” mean if not unknown CIA aircraft?

The next 6 maintenance contracts covered regular USAF aircraft used in South Vietnam: the F-105 (TCTO/IRAN contract no. AF62(531)-1785 for FY 64, contracts no. AF62(531)-1829 and AF62(531)-1871 for FY 65 and 66), the C-123 (IRAN contract no. AF62(531)-1820 for FY 65 and contract no. AF62(531)-1856 for FY 66, known to have been performed at Tainan), and the U-6A Beaver (IRAN contract no. AF62(531)-1801 for FY 64). The last 2 maintenance contracts in the list — no. DA-92-321-FEC-2141 and no. DAJB09-66-C-0001 — cover U.S. Army light plane maintenance at Hamby Army Air Field, Okinawa. So the most interesting point in this list of Customer maintenance contracts is that it also seems to indicate maintenance of “secret” aircraft.

On 1 December 64, Air Asia decided to expand their Tainan maintenance facilities: “The Executive Committee approved in principle the proposed expansion and modification of the Tainan maintenance facilities at a cost of $130,500. This expansion is required to more efficiently handle anticipated U.S. Government maintenance and involves relocation of the automobile maintenance facility at a cost of $20,000; removal of the Pyrotechnics stores and block house, $1,500; relocation of two and construction of five additional shelter bays, $55,000; modification of engine test cell to accommodate J75 engines, $13,000; installation of doors on paint shop and ventilation system, $15,000; and procurement of maintenance equipment and miscellaneous items, $26,000.”

In January 65, Air America hoped to receive a maintenance contract for T-28 IRAN at Udorn. In May 65, Air Asia reported that the USAF’s Air Procurement Region, Far East (APRFE) was in critical need of maintenance services for the B-57. In September 65, APRFE requested Air Asia “to undertake an aircraft camouflage painting project involving thirty to forty aircraft per month for an unspecified number of aircraft or months. Field Management has estimated that the project will require the full time services of thirty painters and thirty laborers who can be hired for that purpose, and three to four supervisors, two inspectors and eight mechanics for a total of 8,000 skilled man-hours per month. Field Management advised that this is an urgent requirement of APRFE for which APRFE has no logical alternative contract facility and that the project can be undertaken by the Company without adverse effect on Company maintenance support. After discussion the Executive Committee authorized the Company to undertake the aircraft camouflage paint project for APRFE.”

In June 1966, the USAF offered Air Asia a big maintenance contract for IRAN work to be performed at Tainan during Government Fiscal Year 1967: “The USAF has offered the

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112 Maintenance of Air America-owned or -operated aircraft is never mentioned in this list as a separate item.
113 In July 64, Air Asia was awarded an IRAN contract for 24 C-123s with the prospect that the quantity might be raised to 52 C-123s (Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 28 July 64, in: UTD/CIA/B7F3).
114 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 1 December 64, in: UTD/CIA/B7F3.
115 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 2 February 65, in: UTD/CIA/B7F4.
116 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 4 May 65, in: UTD/CIA/B7F4.
117 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 29 September 65, in: UTD/CIA/B7F4.
Company contract maintenance work for the Government FY1967 consisting of IRAN (Inspection and Repair as Necessary) of 112 F-100 aircraft and 108 F-105 aircraft and TCTO (Time Compliance Technical Orders) of 160 F-4C aircraft. Field Management has recommended after negotiations with the USAF that the Company provide IRAN of 112 F-100 aircraft and 84 F-105 aircraft and TCTO of 137 F-4C aircraft. It estimated that such maintenance work would require 144,000 skilled man-hours per month. For the past year the Company provided the USAF with contract maintenance requiring about 148,000 skilled man-hours per month. It is also proposed that, in addition to the foregoing fixed maintenance work, the FY1967 USAF contract contain a bilateral option where under the maintenance to be performed can be increased to provide IRAN for a total of 130 F-100 aircraft and 138 F-105 aircraft and TCTO for a total of 151 F-4C aircraft. If this additional maintenance were performed, the total contract would require 194,000 skilled man-hours per month. It was pointed out that to perform the recommended FY1967 USAF maintenance contract the Company will need to expend $286,000 for improvement and expansion of facilities, $266,000 of which will be recovered from the USAF under the one-year contract. The Executive Committee approved the fixed portion of the FY1967 USAF maintenance contract as recommended, provided such work can be performed without adversely affecting the work to be performed under existing contracts and in support of the Company’s own aircraft fleet.”

A similar offer for Fiscal Year 1968, that is for the period from 1 July 67 to 30 June 68, arrived in the spring of 1967. On 27 June 67, Air Asia reported: “Negotiations with the USAF on the major Tainan maintenance contracts for the Government Fiscal Year 1968 have been completed. The contracts, which basically consist of IRAN (Inspection and Repair as Necessary) of F-100 and F-105 aircraft and modification, maintenance, and repair of F-4 aircraft, were reviewed for the Executive Committee. Pre-production costs which the Company must expend in connection with the FY1968 maintenance contracts include (1) $12,000 for alteration of the eastside airfield entrance to provide an aircraft fire exit; (2) $38,250 for five additional Talco aircraft shelters; (3) $35,950 for 72,000 square feet of concrete paving; and (4) $11,000 for special work stands for F-4 aircraft. Of the total pre-production costs, $63,925 will be recovered under the USAF maintenance contracts in FY1968 and $15,300 in FY1969, leaving $17,975, or one-half the cost of concrete paving, which will also be used by the Company in its operations, to be paid for by the Company.”

It is well known how the War in Vietnam grew and grew, until Vietnamization began in 1969 and the last US troops left the country on 29 March 73, leaving behind an unfinished war. Of course, the number of USAF, US Army, US Navy and USMC aircraft assigned to operations in South Vietnam also increased and decreased in the same way. So it is not a surprise that the number of maintenance contracts that Air Asia had with the US military also followed that rhythm over the years. However, the development wasn’t linear. Sometimes, there were even unusual cases: In 1969, Air Asia completely repaired a US Marines OV-10A Bronco that had sustained severe damage during a ground mortar attack in South Vietnam. Air Asia technicians succeeded in returning the aircraft to an airworthy condition, although

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118 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 29 June 66, in: UTD/CIA/B8F1.
119 Minutes of Meetings of Executive Committees of Air Asia Co Ltd and Air America Inc. of 27 June 67, in: UTD/CIA/B8F2.
they were completely unfamiliar with this type of aircraft.\textsuperscript{121} In mid-1970, Customer maintenance to be performed at Tainan decreased: “The USAF has pulled out some of the F-105 maintenance work proposed for Tainan, with USAF maintenance for FY1971 now estimated at 182,000 skilled man-hours monthly, some 30,000 or 15% below earlier estimates. If this reduction is not replaced with other work it will require a cut-back in personnel and the hourly rate charged the USAF per skilled man-hours will increase from $2.83 to $3.01 for the smaller volume.”\textsuperscript{122}

The number and nature of maintenance contracts that Air America had with the US military during the Vietnam War is so complex that they cannot be described here in detail. Yet, even after 1970, Air America had many maintenance contracts with the US military. At the height of the Vietnam War, that is in February 1972, Air America had the following maintenance contracts with the US Government:\textsuperscript{123}

Some acronyms and their meaning:

BOA: Basic Ordering Agreement
College Eye: a Korat, Thailand-based unit of 8 Lockheed EC-121Ds providing daily airborne radar coverage and surveillance in support of other aircraft flying combat missions in Southeast Asia (SEA)
IRAN: Inspection and Repair as Necessary
MAAG: Military Assistance Advisory Group, Taiwan, Taipei
T & M: Time and Material

\begin{table}[h]
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\begin{tabular}{|l|l|l|}
\hline
\textbf{Category B - USG Maintenance} & & \\
\hline
F62531-70-A-0001 & AAM/USAF & \\
F04608-71-A-0055 & AAM/USAF & \\
F62531-70-A-0009 & AAM/USAF & \\
F82531-70-C-0006 & AAM/USAF & \\
F62531-70-C-0007 & AAM/USAF & \\
F42600-71-C-0010 & AAM/USAF & \\
F62435-71-C-0038 & AAM/USAF & \\
F33600-71-C-0221 & AAM/USAF & \\
F33600-71-C-0264 & AAM/USAF & \\
F42600-71-C-0299 & AAM/USAF & \\
\hline
\end{tabular}
\caption{Category B - USG Maintenance}
\end{table}

\textsuperscript{122} Minutes of Meetings of Executive Committees of Air America Inc. and Air Asia Co Ltd of 27 October 70, p.5, in: UTD/CIA/B8F4.
\textsuperscript{123} Memorandum “Company Contracts”, dated 2 February 72, in: UTD/CIA/B1F10.
The following is a summary of maintenance contracts that still existed in 1973.\(^{124}\)

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### MAINTENANCE CONTRACTS

<table>
<thead>
<tr>
<th>Contract No.</th>
<th>Period</th>
<th>Organization</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DOT-FA73PC-1000</td>
<td>1 July 1972 - 30 June 1973</td>
<td>Department of Transportation Federal Aviation Administration Pacific Region P. O. Box 46099 Honolulu, Hawaii 96813</td>
<td>Maintenance services for Sabreliner aircraft at Yokota, AB, Japan; Tainan, Taiwan and other locations. Amount of funds on contract: $95,024.00</td>
</tr>
<tr>
<td>2. FO4606-72-A-0074</td>
<td>16 September 1972 - 15 September 1973</td>
<td>United States Air Force thru Directorate of Procurement, Sacramento Air Materiel Area McClellan AFB, California 95652</td>
<td>Fixed Price Basic Ordering Agreement for Depot Level repair/maintenance of U.S. Navy aircraft; repair of crash/battle damaged USAF and U.S. Navy Aircraft; and other emergency aircraft maintenance as required by various DOD Contracting Officers under separate orders at Tainan, Taiwan. Estimated value of contract: $1,000,000.00</td>
</tr>
<tr>
<td>4. FO4606-72-A-0092</td>
<td>1 September 1972 - 31 August 1973</td>
<td>United States Air Force thru Directorate of Procurement, Sacramento Air Materiel Area McClellan AFB, California 95652</td>
<td>Time-and-material Basic Ordering Agreement for aircraft component overhaul and repair; repair of crash/battle damaged aircraft and other emergency aircraft maintenance as required by various DOD Contracting Officers under separate orders at Tainan, Taiwan. Estimated value of contract: $1,200,000.00</td>
</tr>
</tbody>
</table>

### MAINTENANCE CONTRACTS (Continued)

<table>
<thead>
<tr>
<th>Contract No.</th>
<th>Period</th>
<th>Organization</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>5a. FO4606-72-A-0092-RJ02</td>
<td>23 January 1973 - until completed</td>
<td>Same as Above</td>
<td>BOA order for overhaul of T53-L13B (UH-1H) engines at Tainan, Taiwan. Amount of funds on order: $688,322.35</td>
</tr>
<tr>
<td>7. F33600-71C-0221</td>
<td>12 November 1970 - 30 June 1973</td>
<td>United States Air Force thru Specialized Procurement Branch, Wright-Patterson AFB, Ohio 45433</td>
<td>IRAN of special project C-46 and C7A aircraft; and R-2800 engine and C-46 aircraft component overhaul at Tainan, Taiwan. Amount of funds on contract: $854,812.92</td>
</tr>
<tr>
<td>8. F33600-71C-0264</td>
<td>29 June 1971 - until completed</td>
<td>United States Air Force thru Specialized Procurement Branch, Wright-Patterson AFB, Ohio 45433</td>
<td>Blanket Purchase Agreement for procurement of aircraft components, accessories, supplies and services in support of the USAF Special Project C-46 aircraft program at Tainan, Taiwan. Amount of funds on contract: $148,268.62</td>
</tr>
</tbody>
</table>
In addition to the Government contracts, Air Asia / Air America also had some maintenance contracts with a few airlines:

<table>
<thead>
<tr>
<th>Contract No.</th>
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<th>Organization</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. F42600-73-C-0014</td>
<td>1 October 1972 - until completed</td>
<td>United States Air Force thru Directorate of Procurement Ogden Air Material Area Hill AFB, Utah 84406</td>
<td>IRAN/modification of 8 Republic of Korea F-10 aircraft at Tainan, Taiwan. Amount of funds on contract: $117,753.90</td>
</tr>
<tr>
<td>15. NOO551-73-D-0030</td>
<td>1 January 1973 - thru 31 December 1973</td>
<td>United States Navy thru U.S. Naval Supply Depot Box 33, FPO San Francisco 96651</td>
<td>Indefinite quantity contract for overhaul and repair of aircraft components at Tainan, Taiwan. Amount of funds on contract: $10,000.00</td>
</tr>
</tbody>
</table>

In addition to the Government contracts, Air Asia / Air America also had some maintenance contracts with a few airlines:

The important role that Air Asia played in US military aircraft maintenance during the Vietnam War can best be seen by looking at the many commendations they received and that can still today be seen at the Air Asia facilities of Tainan, like this one dated 7 October 71 coming from the Staff Commander in Chief Pacific:

(photograph kindly submitted by Tom Ziemba and reproduced here with kind permission from H.H. (Johnny) Chang-Chien, Director Quality Control, Air Asia Company Limited)

On the other hand, some regional maintenance bases – especially Udorn – expanded. In October 1970, we read: “The Executive Committee then reviewed the current status of construction of the additional facilities which have been approved by the Deputy Chief JUSMAG for Udorn to accommodate the expanded helicopter and fixed wing operations at that base. The additional facilities have been under construction since July. It is estimated that the total construction project will cost $892,000, which cost is being paid by the customers under Form F procedures. The project consists of paving the so-called South 40, provision of taxiways and access roads, vehicular bridge, security fencing and lighting, utilities, sewage pump station, two hangars, offices and shops, warehouses, and operations building. The last phase of the construction project is scheduled for completion by May 1971, with some major elements scheduled for completion as early as December, 1970.”

This expansion had become necessary not only, because Air America’s own fleet of helicopters had become so big, but also because a large part of the Royal Lao Air Force fleet was maintained at Air America’s Udorn facility as well as – since 1968 – the entire O-1 and T-28 fleet of the Ravens. To illustrate the amount of aircraft maintenance that was performed at Air

126 Minutes of Meetings of Executive Committees of Air America Inc. and Air Asia Co Ltd of 27 October 70, pp.4/5, in: UTD/CIA/B8F4.
127 Robbins, The Ravens, pp.75-78.
America’s Udorn facility, here is an example: Of the 219 aircraft maintained by Air America at Udorn in December 1972, only 55 were operated by Air America – the remaining 164 aircraft – UH-34Ds, UH-1Hs, UH-1Ms, O-1D or Fs, U-17Bs, T-28B, C or Ds, as well as T-41s – were RLAF, Raven or other military aircraft. After General Lon Nol had taken power in Cambodia in March 1970, maintenance of Khmer Air Force aircraft was performed at Phnom Penh under the supervision of an Air America maintenance team called LMAT, and for heavy maintenance the Khmer Air Force aircraft were flown to Thai-Am at Bangkok – at least, until the country fell to the Khmer Rouge in April 75.

At that time, a lot of other Air America maintenance facilities had already closed doors. The first to be closed was Tachikawa, Japan in November 1969. As to South Vietnam, after the cease-fire agreement of 24 January 1973, Air America still remained in the country and so was vital to the evacuation of South Vietnam and then of Saigon in late April 1975. Udorn operations in Thailand were phased out on 30 June 74. Air America sold its Udorn maintenance facility and turned the lucrative complex over to the Thai-government affiliated Thai-Am Corporation, which was headed by Air Marshal Soothorn Sundrakul of the Royal Thai Air Force. By 1 July 74, Air America’s Udorn operations were closed.

At the end, Air Asia was also gone: On 20 February 1975, it was reported to the Executive Committee of Air America Inc “that the sale of Air Asia shares to E-Systems, Inc had been

Air Asia Machine Shop Building, Tainan, Taiwan, taken by Dudley Foster in 1967

(UTD/Foster/ photo no. 1-DF1-2-PB42)

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128 List of Assigned, Maintained Aircraft, Udorn, 1 December 72, in: UTD/Bisson/B5, microfilm reel no. 24.
129 For details see my file Air America in Cambodia – LMAT and the Khmer Air Force as well as the Khmer Air Force aircraft files within my The Aircraft of Air America.
131 Minutes of Meetings of Executive Committees of Air America Inc. and Air Asia Co Ltd of 30 April 74, in: UTD/CIA/B10F1.
132 Castle, At war, p.119.
133 Minutes of Meetings of Executive Committees of Air America Inc. and Air Asia Co Ltd of 13 August 74 in: UTD/CIA/B10F1.
134 Minutes of Meetings of Executive Committees of Air America Inc. and Air Asia Co Ltd of 9 July 74, in: UTD/CIA/B10F2.
accomplished on January 31, 1975 and that approval of the outward remittance of the purchase price by the Chinese Government authorities was being processed without any known problems. The final net book value stipulated in the sales contract was $3,218,000.00. But although all this sounds like the end of Air Asia operations, business continued under a new ownership. “Air America has signed a maintenance and support agreement with E-Systems, wherein E-Systems will continue to provide Air America with the same support as in the past. Of course now we will have to pay E-Systems for all such services they provide us. So AVP-TSR TNN (our AAM man in TNN) will closely scrutinize all work and materials we request from AACL sources. The actual date of sale, of AACL to E-Systems is planned for 1 February 1975.” So in 1975, Air Asia just became a subsidiary of E-Systems of Dallas, Texas, but the contracts that the company had with the US military remained more or less the same, as can be seen from the list below still preserved at Tainan:

![Image of a chart](http://www.foia.cia.gov/sites/default/files/document_conversions/1818029/197417.pdf)

(photokindly submitted by Tom Ziemba and reproduced here with kind permission from H.H. (Johnny) Chang-Chien, Director Quality Control, Air Asia Company Limited)

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135 Minutes of Meeting of Executive Committee of Air America, Inc of 20 February 75, p.3, in: UTD/CIA/B10F3.
136 Minutes of Meeting of Executive Committee of Air America, Inc of 19 March 75, p.3, in: UTD/CIA/B10F3.
137 Air America’s Assistant Vice-President – Technical Services-Representative at Tainan, David B. Gluskin (see: Survey reports dated 21 July 75, re aircraft abandoned in SVN, in: UTD/CIA/B18F7).
In 1987, E-Systems of Texas sold the Air Asia complex, which again became Air Asia Company Limited, taking up not only the old name, but also the old type of writing this name, as can be seen in the genealogy of the company exposed at Air Asia’s Tainan facility. And the new Air Asia Co Ltd sticks to its past by preserving even the old models of the LST S.S.Chung and the barge Buddha:

(photos kindly submitted by Tom Ziemba and reproduced here with kind permission from H.H. (Johnny) Chang-Chien, Director Quality Control, Air Asia Company Limited)

A more detailed history of the new Air Asia Co Ltd can be found on their website at http://www.airasia.com.tw/about/about_page.html:

1987: Air Asia’s shares of stock transferred by Mr. Bill Monkman, a major stockholder of Precision Airmotive - a U.S. corporation specializing in various engines and components work in the aviation industry.

1994: Taiwan Aerospace Corporation (TAC) acquired Air Asia and made it a subsidiary. Air Asia has been accumulating ample maintenance experiences and achieved the great honor from many customers globally for its outstanding maintenance performance.

1996: Air Asia established the Vertical Flight Center which was the only one helicopter maintenance facility in Asia that obtained the authorization from Bell Helicopter. Air Asia also celebrated the 50th Anniversary of its founding.

1998: Air Asia went public on the IPO (initial public offering) list.

2000: Air Asia carried out various expansion plans, upgraded facilities and established additional capabilities. Air Asia was also the first Taiwan aviation company to acquire the ISO 9001 International Quality Standard Organization Certifications. Air Asia proactively engaged in the MRO projects of Boeing B737 commercial aircraft.

2001: Air Asia constructed the New Wide Body Aircraft Maintenance Hangar.

2002: Air Asia acquired several OEM’s Authorized Distributor Certifications including Boeing, Bell, Hawker Beechcraft, Rolls-Royce, MD Helicopters, Honeywell, BF Goodrich, Sikorsky, Allison and Raytheon.

139 “In the international arena, E-Systems sold its Taiwanese-based subsidiary Air Asia, after finding it incompatible with the rest of the company's business” (E-Systems Inc, History, readable at http://www.fundinguniverse.com/company-histories/e-systems-inc-history/).
2007: Air Asia obtained the repair station certification from Japan Civil Aviation Bureau (JCAB). Air Asia signed the long-term agreement with Japan Airlines to provide heavy maintenance services for MD-80 Fleet.

2009: Air Asia obtained the repair station certification from Civil Aviation Administration of China (CAAC).

2010: Air Asia signed the long-term heavy maintenance contract with Japan Transocean Air Co., Ltd. (JTA).

2012: Air Asia signed a 6-year fleet heavy maintenance contract & line operation service contract with T’way Airlines. Air Asia signed the long-term agreement with Avanti Aviation Corporation to provide maintenance services for CESSNA 208B Fleet.

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