Technical Air Intelligence
Wreck Chasing in the Pacific during the War

Japanese aircraft destroyed on the ground by allied planes near Lae Rabaul, photo courtesy www.ibiblio.org

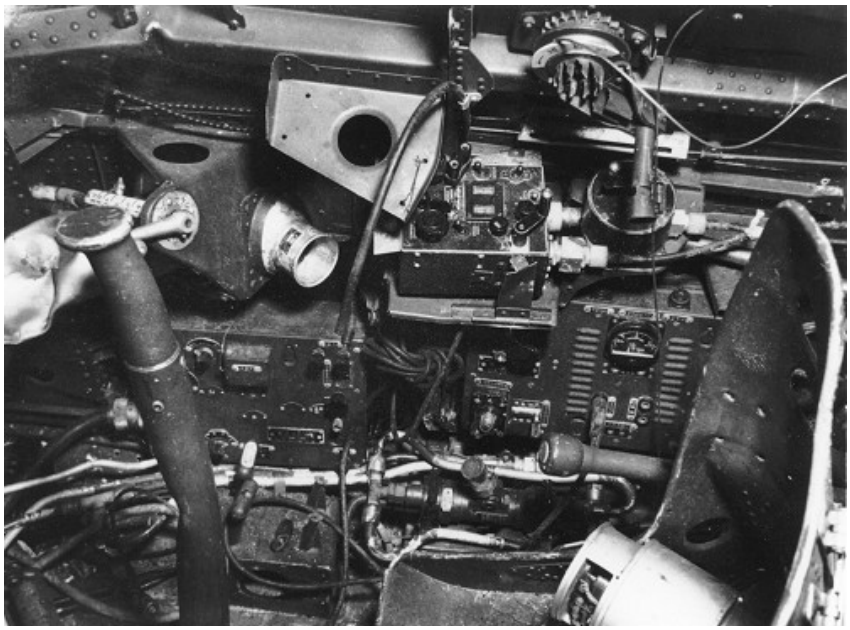
By David Trojan, USN Retired, Crash Explorer

This story is an attempt to document the history of aircraft wreck chasing in the Pacific during World War Two. The combatants made major efforts to hunt down, capture, and study aircraft of their adversaries. The allies employed Technical Air Intelligence Units (TAIU) whose specific job was to recover and gather captured aircraft for study of their technical and tactical capabilities. The attack on Pearl Harbor graphically demonstrated the key role of aircraft in the Pacific War. At the time, America possessed virtually no information about Japanese aircraft. We had a war on our hands, yet we were uncertain of the enemy's capabilities. We found the enemy much more potent than most strategists had expected, and we paid dearly for underestimating the strength. At the beginning of World War I, Brig. Gen. Joseph E. Kuhn had stated that intelligence was "as essential to modern armies as ammunition," the second world conflict continued to demonstrate the truth of this saying.

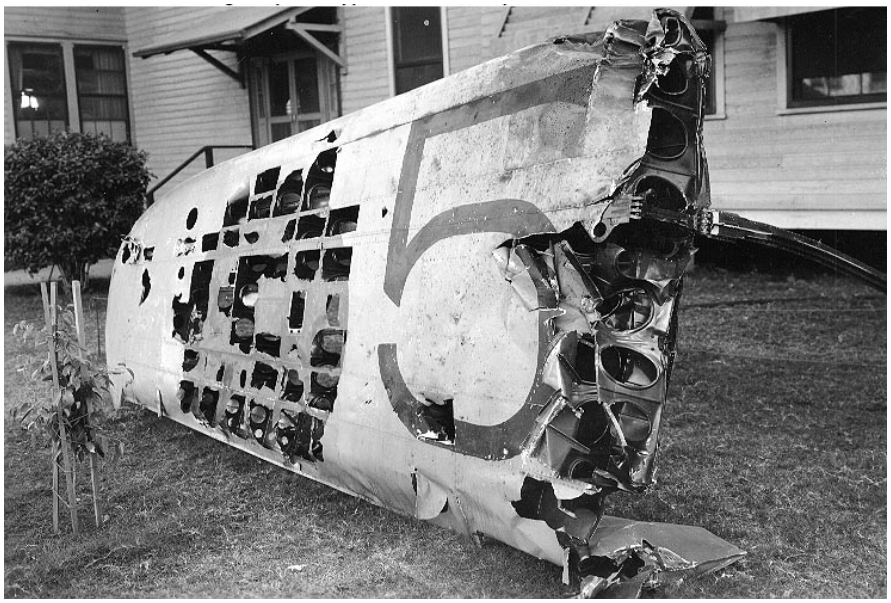
Wreck chasing in the Pacific began as soon as the bullets stopped flying at Pearl Harbor in December 1941. Inquiries regarding crashed enemy aircraft and analysis of enemy materiel began with the cleanup of aircraft crash remains around Pearl Harbor. Some of the Japanese aircraft that crashed in Hawaii were recovered and examined. Unfortunately, souvenir hunters picked the wrecks apart complicating the analysis of the wrecks. At the time there was no formal group of experts dedicated to technical air intelligence of enemy aircraft. The system, in the beginning at least, had little order and various branches of the military services were not

coordinated. Remnants from the Pearl Harbor attack were examined by whatever service recovered them and, hopefully, before someone took a souvenir for himself! The Navy accomplished their own analysis of the wrecks and the Army completed theirs.

Army Air Corp personnel examine the wreckage of a Japanese Zero at Fort Kamehameha Hawaii, following the Dec. 7 attacks, official USAF photo



Interior view of the Zero cockpit which crashed into Building 52 at Fort Kamehameha, note the U.S. manufactured Fairchild Radio Compass in the upper center (Compass Model RC-4, Serial # 484). It was tuned in on 760 KC, official US Navy photograph



Wing of a Japanese Navy Type 97 Carrier Attack Plane (Kate) that crashed at the Naval Hospital, Pearl Harbor, during the attack, its Rising Sun insignia has been largely cut away by souvenir hunters, U.S. Naval Historical Center photograph

A few items were turned in and then forwarded for examination, test and report. Some intelligence was learned from these first captured enemy aircraft, including the surprise that they were equipped with American made Fairchild Aero compasses manufactured in New York by the Fairchild Aerial Camera division. After Pearl Harbor and the lost of the Philippines, the need for adequate reliable intelligence concerning enemy aircraft became at times desperate. However, from the opening of the Pacific War until about November 1942, there was little enemy aircraft technical intelligence activity in the Pacific area. No organized attempt was made to have technical intelligence carried into the field.

Japanese Wreck Chasing Efforts

Wrecked Grumman F4F-3s from VMF-211 near the airstrip on Wake, photographed sometime after the Japanese took the island on 23 December 1941, official U.S. Navy photograph, now in the collections of the National Archives

The Japanese held the initial advantage in Pacific wreck chasing when they captured examples of most allied aircraft early in the conflict. When the Japanese occupied the Philippines, Java and Netherlands East Indies they captured a number of intact P-40s and B-17s. Furthermore, two more P-40E's were captured intact in the Philippines on Mindanao in May 1942. Later in the war, additional aircraft including a P-40N were also captured in China. The captured aircraft were tested by the IJAAF Koku Gijutsu Kenkyujo (Air Technical Research Laboratory) at Tachikawa Japan.

Captured American planes at Tachikawa Japan undergoing testing include a B-17 and several P-40s, photo courtesy j-aircraft.com

Unlike the allies, the Japanese put their captured allied aircraft to operational use in combat. In 1943, the Japanese had a small operational combat unit in Burma equipped with the P-40E's that they had captured in the Philippines and Java. After the fall of Burma, Malaya, Netherlands East Indies (NEI), and the Philippines, all types of Allied aircraft were employed by the Japanese in combat. In one instance they used the P-40's with Japanese markings to defend Rangoon. However, their use resulted in confusion. They were scrambled to intercept enemy bombers, which turned out to be Japanese bombers, and in the uncertainty one of the bombers was shot down!

Wrecked P-40 captured in the Philippines, photo courtesy j-aircraft.com via LRA

The Japanese recovered aircraft wreckage from crash sites on a smaller scale than the allies, however they still obtained valuable information from the allied aircraft. Early in the conflict the Japanese studied the armor installations on the captured B-17s and launched systematic investigations. These investigations lead to improvements in their own armor sheets which resulted in better armor protection for their aircraft. In another example, the Japanese adapted a Sperry computing gun sight garnered from downed B-17s into their own advanced gun sight. The Japanese also learned how to the shield their aircraft radios from engine electrical interference by analysis of captured U.S aircraft. The Japanese were most interested in recovering machine guns, electronics and other intelligence material, particularly from wrecks near their main base at Rabaul. The Japanese recovered the wreckage of a top secret unmanned TDR Drone, America's first guided missile from near Rabaul. The drone wreckage was sent from Rabaul to Truk on 8 November 1944, unfortunately the plane carrying the wreckage went missing along the way.

Wrecked F6F-5, photo courtesy Wings Palette

Some aircraft wrecks found by the advancing American troops were captured allied planes that were used by the Japanese. The wreck of a F6F-5 was found in Japan after the war. The aircraft was originally from VF-44 assigned to the USS Langley and bellied in after flak hits during a strafing run on Formosa January 4, 1945. The wrecked aircraft was made airworthy by the Japanese and was later wrecked again before it was finally recaptured by the Americans.

Action was sometimes taken to bomb allied aircraft wrecks in order to deny the enemy the use of the plane, or its armament for intelligence purposes and apparently was standard practice. In one documented example from Japanese occupied Majuro Atoll, a downed B-24 lying on the reef was bombed and several strafing runs were made on the wreck that used a total of about 430 .50 cal and 200 .30 cal ammunition fired. The action was very much to the chagrin of fellow pilots because the status of the aircrew was unknown.

Aircraft Salvage Early in the War

P-38G s/n 43-2264 wreck salvaged after it crashed with battle damage on Guadalcanal, photo courtesy warbirdinformationexchange.org

In the early years of the war, crashed allied aircraft were salvaged whenever possibly, to provide spare parts that were in short supply. Allied pilots were instructed to crash land as close to their home airfields as possible, so that the planes could be stripped for parts. Teams were also dispatched to distant wrecks to recover guns, engines and instruments. For the Allies, the battlefields of Papua New Guinea (PNG) yielded the first intact examples of enemy aircraft. Several Japanese planes crashed and the wrecks were recovered around Port Moresby on the southern coast of Australia's Territory of Papua. In early 1942 a prized Japanese Zero was discovered nearly intact on PNG. Observers told intelligence officers that it was in good enough condition to easily be made airworthy. Orders for the plane to be shipped to Melbourne for reconditioning and flight tests were issued, but in order to ship the plane the attending salvagers literally chopped off the outer panels of the main wings so it would fit inside a truck, rendering it largely useless for restoration purposes. It was crated and shipped, but by the time it reached Brisbane Australia, souvenir hunters had removed practically every instrument, name plate, indicator, and lever that would come off and many cables and pulleys were missing. After intelligence officers inspected the plane at Brisbane, it was shipped on to Melbourne to be studied further for whatever could be learned. It was not in any condition to be easily rebuilt after the souvenir hunters had done their work. It was a mean lesson for the intelligence officers to learn. Future crashed planes were guarded vigorously, and souvenir hunting was discouraged with new regulations and procedures designed to preserve valuable enemy aircraft and equipment for intelligence studies.

A Zero for the US

In June 1942 a "Zeke" that had been taking part in an attack on the US base at Dutch Harbor in the Aleutian Islands made a forced landing in a bog, receiving relatively little damage. The Zero was discovered by a patrolling PBY on the island of Akutan a month later. The aircraft was recovered by US Navy personnel and shipped to NAS North Island, California, where it was repaired. It was first flown at North Island in September 1942. The plane was used in aggressor training for westward headed air groups during that time. A select number of senior pilots were allowed to take it up to give them an idea of the A6M performance and maneuverability. Over the next several months it made mock combat flights against US Navy F-4F and F4U aircraft. Later, the USAAF also tested, compared, and evaluated it and put it through similar paces against P-38, P-39, P-40, and P-51 aircraft.

U.S. Navy personnel work on recovering the first intact Zero on the island of Akutan in the Aleutians in July of 1942, photo courtesy vilda.alaska.edu

The Aleutian Zero, A6M2 #4593 after it was repaired to flying condition undergoing maintenance in San Diego, photo courtesy warbirdforum.com

Joint Salvage efforts

In the war's early days, it was difficult to obtain crashed aircraft from the widespread battle zones. In addition, Japanese labels had to be translated, and identifications often proved difficult. One Royal Australian Air Force (RAAF) officer with practical engineering experience maintained a roving crash inspection headquarters in New Guinea. In mid-September 1942, three Type 99 Val dive bombers were discovered that were force landed on a beach in Papua New Guinea. Their crews had burned the cockpit areas and fled inland. The aircraft were jointly salvaged by the USAAF and RAAF personnel by disassembling them and transporting them to Port Moresby and then onto Brisbane for further evaluation.

The British and Australians carried the burden of crash intelligence in the Pacific theater during the first year of the war. In the Southwest Pacific Area (SWPA) captured materiel was routed from the troops stationed in the combat zones to supply service personnel to the special staff officers in the theatre of operations. These officers made a preliminary analysis, (under the direction of Australian Land Headquarters) prepared instruction booklets for troop instruction, and then distributed half of the materiel to the Australians and the other half to the appropriate US technical service for more detailed analysis. Reports arising from the US teams went to the Assistant Chief of Staff, to the War Department and to combat and service troops. Under the conditions of war, however, there were very real limitations with this scheme.

Japanese plane wreck on beach, photo courtesy Lansdale Collection from wikimedia.org

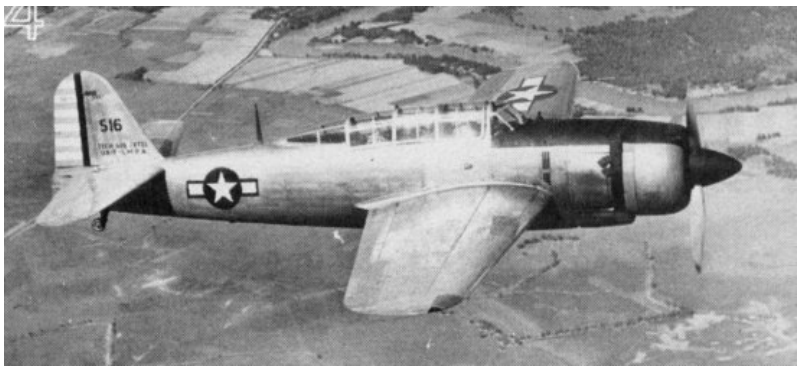
Technical Air Intelligence Units

In late 1942, it was recognized that there was a need for specialized personnel skilled in collecting and analyzing captured enemy equipment. The Allies in the Pacific theatre were keen to learn as much as possible about their opponents' equipment. In November 1942 a joint group with members from the US Navy, US Army Air Forces, Royal Australian Air Force, and Royal Navy was formed at Eagle Farms, near Brisbane, Australia. The unit absorbed a small team from the Directorate of Intelligence, HQ Allied Forces, who were developing the code name system for Japanese aircraft they had started in 1942. The unit was called the Allied Technical Air Intelligence Unit (ATAIU). It was further agreed the Americans would lead all evaluations of captured enemy aircraft. The purpose of the group was to recover and learn the secrets of enemy aircraft to gleam intelligence. A standard *pro forma* report was worked out by the Allied Air Forces and was eventually adopted for standard use throughout the AAF. Technical

intelligence units evaluated enemy materiel to determine what counter measures were required as well as ascertaining the state of development of enemy production. The units also prepared literature and information for troops to assist them in countering the enemy weapons, and they retained any captured materiel so that further study might be done on the objects. This required technical intelligence personnel to locate, identify, then remove the materiel from where it was (often in or near the front lines) and then evaluate the item before sending it back to a rear depot for further tests.

The Wright Field unit drew on the experience of the RAF, whose organization and procedures had been studied in detail by USAAF personnel. The British, since 1939, had acquired considerable expertise in this area. The British Air Ministry included a technical intelligence section that contained both a technical staff and crash officers, the latter being individually responsible for a given area of the British Isles. When an enemy plane crashed, the crash officer went immediately to the scene, assessed what technical aspects he could, and immediately questioned any downed enemy airmen.

The USAAF air intelligence organization of the U.S. Army Air Forces was built up from a small nucleus that existed at Wright Field, Ohio. The air intelligence organization evolved and become the Technical Data Laboratory (TDL) whose primary job was to evaluate German and Japanese aircraft and technical documents. The Air Material Command at Wright Field also helped to organize an Air Technical Intelligence (ATI) course. This course taught candidates how to prepare initial pro forma evaluation reports and how to determine what captured material should be forwarded for more detailed analysis within the theater or at Wright Field. By the end of March 1943, thirty-three Air Force officers and ten Navy officers had graduated from the ATI course. Upon graduation, the officers went to Washington for ten days of indoctrination before going to overseas theaters. To further improve both the value of technical information and the attention paid to it, in June 1943, the Director of Air Intelligence wrote to the commanding general of each USAAF numbered air force. He emphasized the importance of technical intelligence, but noted the mission was not being handled well. ATI was not coming in from Alaska, Hawaii, India or China. Although a workable system of technical intelligence was in effect in the SWPA, only a fraction of captured Japanese equipment was available for scrutiny there. To alleviate the lack of capability to provide acceptable analysis of material, the Director of Air Intelligence authorized the establishment of a captured air equipment center. By 1945, TDL had grown from 25 to 750 people and had been redesignated the T-2 intelligence section.



US Navy personnel of the TAIC at NAS Anacostia testing a captured Japanese D4Y to obtain information about design, performance, and capability, photo courtesy wikimedia.org

While the AAF attempted to improve crash intelligence, the U.S. Navy conducted a similar activity at a captured enemy equipment unit set up in early 1943 at the Anacostia Naval Aircraft Factory outside Washington D.C. A joint Army Navy Technical Air Intelligence Activity was proposed at Anacostia that would handle a major portion of the work.
The proposal was shelved because neither service was prepared to work with the other. In June 1943, the Navy resurrected the proposal, suggesting the Army be in charge of a "test section" at Nashville, Tennessee, while the Navy supervised a "development section" in Washington to produce and disseminate timely technical aviation data. This second proposal was accepted and a group formed the Technical Air Intelligence Center (TAIC) at NAS Anacostia. The purpose of the centre was to centralise and co-ordinate work of test centres in the United States with work of TAIUs in the field. The Anacostia TAIC was supported by other Navy Air Stations such as those at North Island, California, and Patuxent River, Maryland.

Problems Encountered by Technical Air Intelligence

Marine poses next to a wrecked Japanese Zero on Tuluvu, photo courtesy j-aircraft.com

In the beginning, the technical air intelligence teams' biggest problems were with the average soldier rather than conflict with other units. To the front line soldier, confronted with a dump of equipment or munitions, there was always the likelihood of finding souvenirs or food. As a result, it was common for the technical air intelligence men to stumble across dumps that had been scattered to the winds. Alternatively, confronted by a new Japanese aircraft, front-line troops usually wanted no more than to obliterate the obstacle and move on, hence the items were not given up for analysis.

Japanese type 99 carrier dive bomber D3A (Val) wreckage lies in the water off Guam beach as Marines continue to stream ashore, photo courtesy National Archives

Beached Seaplane was Japanese point of resistance on Makin Island, photo courtesy www.ibiblio.org

Aircraft wreckage was used by the enemy as concealment. An enemy seaplane beached on the reef at Makin Island was used to block advancing American troops. The island defenders set up machine guns within the wreckage and struck at the advancing American troops as they tried to take the island. To allay this nuisance, American tanks pumped enough shells at close range to annihilate the eighteen occupants concealed in the plane's body and wings. The aircraft was heavily damaged during the battle and of little use by technical air intelligence.

Marines advance warily on Airfield No. 1 on Iwo Jima towards wrecked Japanese planes in which enemy snipers are suspected of hiding. The assault quickly moved on, photo courtesy Marine Corps Historical Collection

Other problems encountered by technical air intelligence were caused by the personnel assigned to the units. It was characteristic of the technical air intelligence personnel to attract those who wanted to do things differently, and dissension seems to have been a fact of life. There was also competition between the different branches of service and other units wanting the same scarce resource. Air technical intelligence always suffered because many of the areas where Japanese airplanes crashed were distant, isolated and hard for the few recovery teams to reach. Few Japanese aircraft were available for study because most had fallen into the ocean. The local natives also prized the aircraft metal and would carry it away almost as soon as it was cool enough to touch. Even after recovery, the air technical intelligence teams still had difficulty shipping the parts back to the United States for further study.

Aborigines salvage parts from a wrecked U.S. bomber, photo courtesy www.bates.edu

The success of the technical air intelligence operation tended to hide the power struggles within the organization. It was suggested that any joint intelligence operations were difficult to establish because of bureaucratic inertia and a legacy that viewed intelligence as a service branch privilege. Further complicating matters were leaders who failed to realize the importance of technical air intelligence and or they lacked the power to accomplish it.

In the autumn of 1943, Squadron Leader Colley was asked to comment on AAF technical intelligence. He reported that the AAF's Air Intelligence Section at Wright Field was, in effect, "buried", while the Navy's Air Technical Section at Anacostia was well set up. Combining or more closely coordinating AAF and Navy technical air intelligence functions, he suggested, would eliminate duplication and enhance overall technical air intelligence.

GI examines a demolished Jap Zero found on Munda New Georgia in the Solomon Island Group, photo historylink101.com

Souvenir Hunting

Souvenir hunters greatly interfered with the prompt collection of intelligence data on enemy aircraft. Although wrecked enemy planes almost invariably yielded valuable information, souvenir hunters sometimes took things which were vital to piecing together a technical report on the aircraft. It is perhaps hard for some men to realize that a scrap of paper or a small metal plate with a few words in a foreign language on it can be of great ultimate significance in analyzing the military and economic resources of the enemy. During the war a strict censorship was placed on mail to try and prevent souvenir hunters from sending home valuable data taken from Japanese planes or the pilots' body. Reports cite several instances in which lives were actually lost, or the progress of battle impeded, by soldiers who endangered the lives of comrades, as well as their own, by seeking some useless souvenir. Many men removed nameplates from aircraft and took lots of other items that would greatly have aided intelligence personnel in the combat area. Souvenir hunting was not confined to any one unit or group, but was undertaken by all

personnel including: construction battalions, defense forces, and even ship's crews—personnel who came ashore after the assault phase had been completed. Not that there had been any lag between the assault and the beginning of the souvenir hunting. Enemy aircraft were stripped as fast as they were discovered. As experienced observers pointed out, every effort must be made, through training, indoctrination, and briefing immediately before an operation, to minimize indiscriminate souvenir hunting and to insure the utmost cooperation between troops and intelligence personnel. The responsibility for reporting enemy aircraft wrecks or turning in for examination any random documents or pieces of equipment found by military personnel rested directly with the officers in charge of the various units involved in an operation.

Wrecked Ki-61 (Tony) inspected by Marines, photo courtesy ww2incolor.com

In connection with the handling or disposal of captured or abandoned property, the 80th Article of War says:

DEALING IN CAPTURED OR ABANDONED PROPERTY.—Any person subject to military law who buys, sells, trades, or in any way deals in or disposes of captured or abandoned property, whereby he shall receive or expect any profit, benefit, or advantage to himself or to any other person directly or indirectly connected with himself, or who fails whenever such property comes into his possession or custody or within his control to give notice thereof to the proper authority and to turn over such property to the proper authority without delay, shall, on conviction thereof, be punished by fine or imprisonment, or by such other punishment as a court-martial, military commission, or other military tribunal may adjudge, or by any or all of said penalties.

These regulations just did not work. The regulations were modified which facilitated legitimate souveniring and were publicized in an effort to encourage troops to turn in all captured items and report enemy aircraft wrecks. A high-ranking U.S. officer who fought the Japanese on Rendova stated: "If handled properly, souvenir collecting pays dividends; if not, it hurts morale and ruins an excellent source of information. Our rule was that a soldier could keep a souvenir if he were given clearance by his Company Commander, the Intelligence Officer, and the Ordnance Officer." However, experience proved that these efforts had little effect on the willful looting and destruction of enemy dumps and equipment including enemy aircraft. The troops

and officers in combat were often indifferent to the requirements of the Technical Air Intelligence Units and had bigger problems to worry about. TAIU personnel often had to win the cooperation of men who had never heard of technical air intelligence and had no conception of its mission. Technical air intelligence officers not only had to be combat men and technical analysts, but also first class salesmen who could talk their way through. The units lacked the power to accomplish their tasks. As a result, the collection of enemy equipment from near the front lines encompassed more than simply staying away from sniper's bullets. A lot of materiel was lost before the Technical Air Intelligence Units were able to guard the equipment and transport the equipment by trusted truck drivers or barge captains. Some of the equipment was very difficult to find and retrieve and the frustration and anger when some of it was lost or stolen can be imagined.

Japanese aircraft souvenir hunting. Soldiers have taken a raft to check out a destroyed Japanese (Pete) floatplane, at the ex-Japanese floatplane base in Rekata Bay on Santa Christabel Island, photo courtesy the Jim Ross Collection, via Shirley Ross at www.cambridgeairforce.org.nz

Technical Air Intelligence Results

The dense jungles and coral atolls of the Pacific slowed yielded their crashed Japanese Zero fighters and Betty bombers. Technical air intelligence officers recovered and learned their secrets. Working hand in hand with Army and Australian Air Force technicians along with natives furnishing much of the manpower, these officers brought back technical data on Japanese planes, engines, and air equipment. Aircraft that were not too badly wrecked were brought back to the United States for reassembly, analysis, and test flights. By keeping a close check on the materials used in the construction of the enemy planes and engines, the technical air intelligence officers were able to piece together the overall picture of how the Japanese war effort progressed. Inspections of wrecked engines divulged secrets of their performance and manufacture. The aircraft were also a source of recognition data, performance and characteristic data such as fields of fire, vulnerability and exhaust patterns.

It was not until the conclusion of the Battle of Buna in December 1942, that the efforts of the TAIUs in the field yielded results. The first examples of the A6M3 “Hamp” were captured largely intact at Buna Airfield. These aircraft plus engines and other parts were moved to the shore and barged back to Eagle Farm Airfield near Brisbane Australia. In early 1943 a TAIU in Australia rebuilt a Mitsubishi A6M “Zeke”, using parts of five different aircraft captured at Buna, New Guinea. The restored aircraft was test then flown against Allied aircraft over Brisbane. While test flying the aircraft the local police received a lot of phone calls from worried citizens concerned that a Japanese aircraft was flying over Brisbane! These reports were scoffed at by the local police as being untrue, because they were not aware of the secret operations going on. To ensure that these Japanese aircraft were not shot down by allied fighter pilots, they were usually either escorted by another "friendly" aircraft and or painted in "friendly" colors and markings. In late 1943 a "Zeke" was shipped to Wright Field where it was flown and evaluated. Other Japanese aircraft acquired by the TAIU in Australia included two "Oscars" and a Kawasaki Ki-61"Tony". The "Oscars" were test flown in Australia in March and April 1944; the "Tony" was shipped to NAS Anacostia later in 1944.

Captured Japanese Nakajima Ki-43-I (Oscar) aircraft in Brisbane Australia, photo from Wings Magazine, June 1982

Technical Air Intelligence Investigations

An example of the work accomplished by TAIU occurred on Tuluvu. On December 29th, 1943, U.S. Marines occupied Tuluvu airfield located on Cape Gloucester on the western extremity of New Britain’s north coast in the Allied Southwest Pacific Area. Members of the technical air intelligence team began their work immediately by inventorying the captured aircraft before the materiel had been needlessly damaged or carted away by souvenir hunters. By the next day more than a dozen aircraft wrecks were found and within a few days additional wrecks and intact aircraft were found. Most of the aircraft that were potentially repairable or salvageable had been stored away from the East (active) runway and camouflaged with foliage. Some were very badly damaged and described as “completely demolished” or “burned out”. At least one was completely intact and another was thought to be repairable, others fell in between.

Type 2 heavy fighter wreck on Tuluvu inspected by American troops, photo j-aircraft.com

Type 1 land based attack bomber wreck on Tuluvu, photo j-aircraft.com

The TAIU officers looked for the serial number of the aircraft and date of manufacture. Allied intelligence considered tail markings important and they were included in the "pro-forma" checklist as items to be recorded. They checked the engine configuration, serial numbers and their dates of manufacture. They inspected the cockpits for their layout and control locations. Then they checked for the existence and thickness of armor plates protecting the pilots and gunner and noted special configurations such as curved armor plates protecting the oil coolers behind the engine. They often recovered armament such as 20mm and 7.7mm machine guns and noted their locations and mounts. Some of the reports on aircraft provided considerable detail, including oil and fuel tank capacities, and special electronics installed. These investigations were important because they enabled countermeasures to be able to defeat the different types of aircraft.

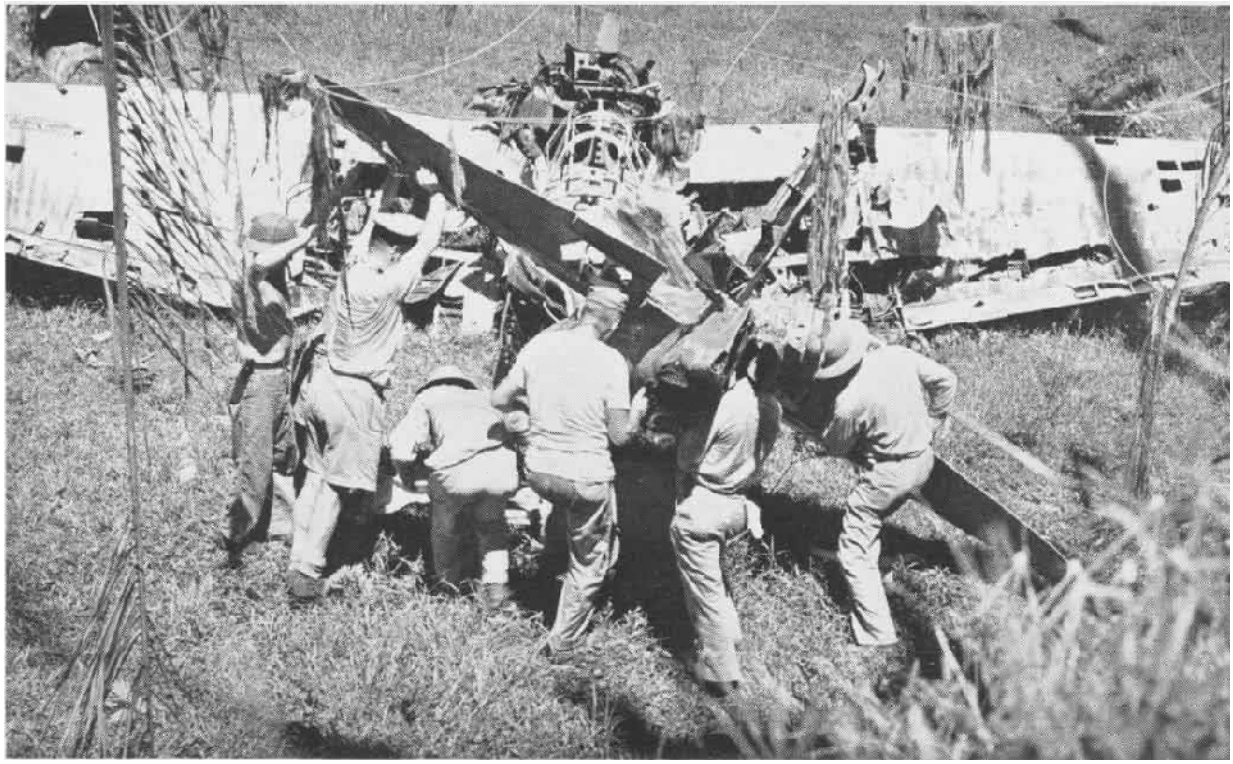
After the initial intelligence reports surveyed the Cape Gloucester aircraft, a later report stated: "Until the airstrip at Cape Gloucester was taken, very little was known about Type 2 Two-Seat Fighter (NICK), and nothing about NICK'S armor." Photographs of the Cape Gloucester NICK allowed experts to determine that the pilot had only a small 9.5mm thick head plate and a larger 6.5mm body plate protected his back located behind the pilot's seat.

In another example, the pro-forma report described a Type 3 Fighter (TONY) at Tuluvu. TAIU personnel estimated that the plane had landed and not been moved for three weeks to a month. A recent flood had submerged the aircraft up to the lower part of the wing. It was

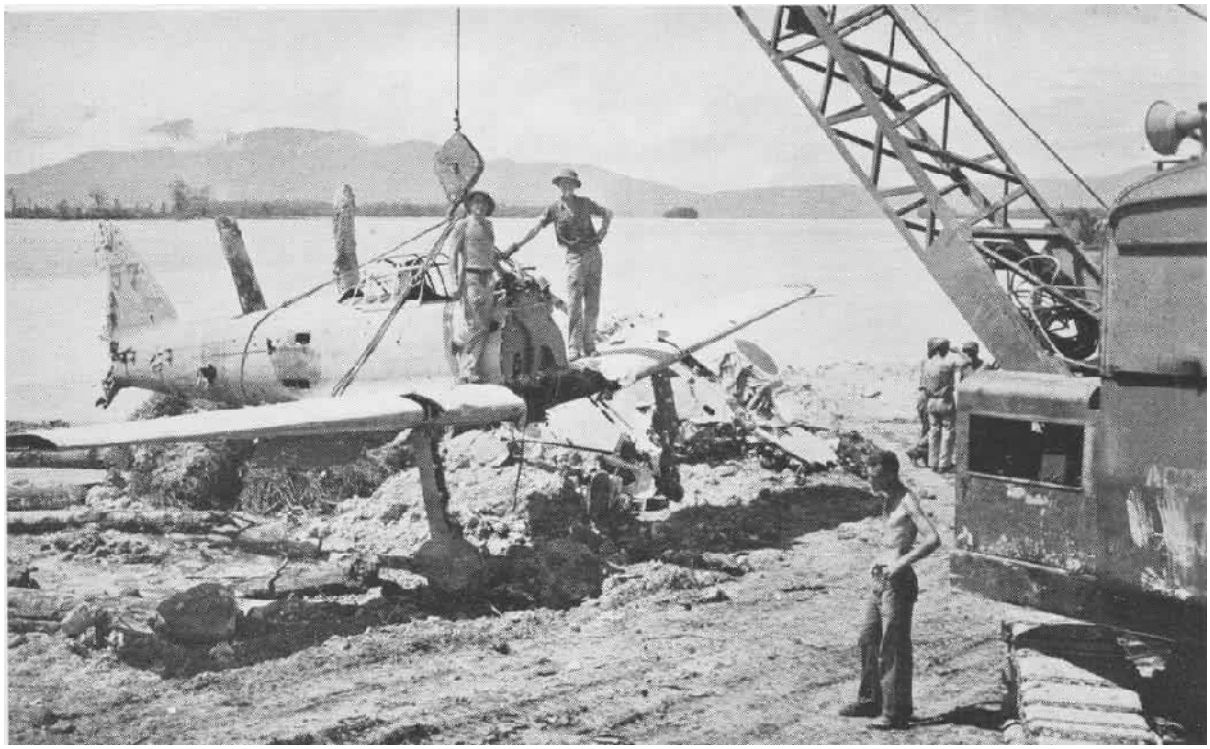
painted mottled green on upper surfaces and unpainted on lower surfaces. The engine was No. 252, dated March 1943. Two 12.7mm machine guns and two 7.7mm guns were fitted. Ammunition was armor piercing-tracer and high explosive. Fuel rating was 92 octane. After the capture of Cape Gloucester the Ki-61 TONY was rushed to Australia for repair and testing against Allied aircraft. These restorations were conducted without many aids, and required crews and pilots to reverse engineer the aircraft to rebuild them, and look for weaknesses to be exploited. Tests were later conducted of the TONY'S 10.3mm armor at the Aberdeen Proving Grounds in Maryland. It was discovered that the armor could be easily defeated by .50 caliber fire and in one test at close range even failed to stop a .30 caliber round. These tests were carried out directly against the freestanding armor. Less than a month after the capture of two TONYS at Cape Gloucester, a TONY was found with pilot protection that had been increased to 17.5mm and 12.7mm plates and included radiator armor.

Enemy Plane Wreck Salvage

Japanese planes often crashed in remote dense jungles in uncharted territory. Local natives were recruited to cut trails and help carry out the parts. In one documented case a Japanese aircraft crashed six miles inland on a 1500 foot hill on Santa Isabel Island. Since it was determined to be a newly developed Judy dive bomber with an in-line engine, it was especially desired for analysis. A trail was cut with machetes to the crash site by a crew of natives who worked for a shilling (16 cents) a day and carried out the engine on a bark woven cradle in four hours.



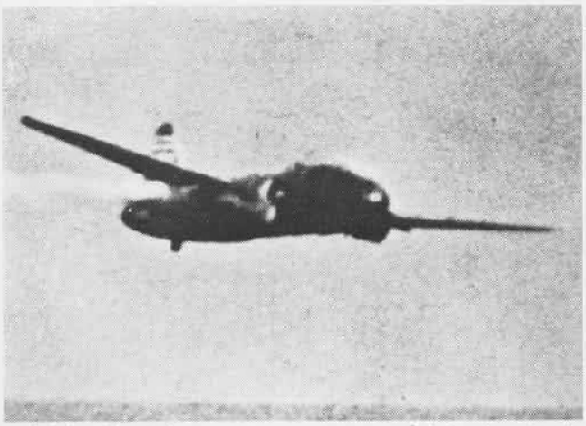
Technical Air Intelligence Officers dismantle a Japanese Zeke at Vila prior to analyzing its strong and wreak points in combat, U.S. Navy photo



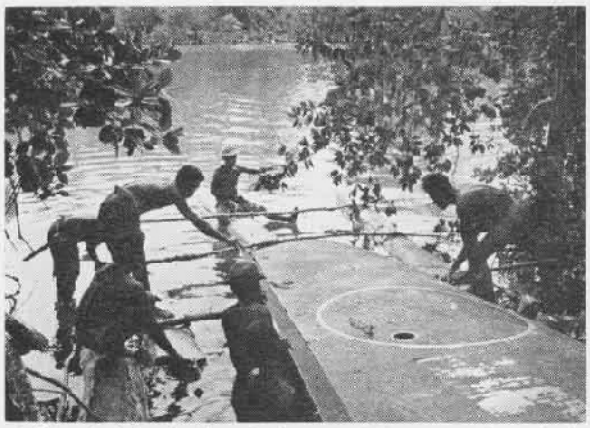
This Japanese Zeke starts its journey to the U.S. where it may be reconstructed and flown, Navy Seabees work on moving the plane, U.S. Navy photo

Wrecked Japanese Hamp (left) and Judy dive bomber (right) get close scrutiny by TAIU, U.S. Navy photos

HOW JAP BETTY IS BROUGHT OUT OF DENSE JUNGLE FOR ANALYSIS



1 Fast, heavily armed Jap *Betty*, a twin-engined bomber, heads down to destruction with one engine smoking; technical air intelligence keeps close tab on wrecked Jap planes to study improvements or deterioration of material, noting weak points



2 Strong-backed native boys load wing of *Betty* onto log raft for transportation to a cargo ship which will take it back to U. S. to be studied; natives are intelligent, hard workers on such jobs and are paid small wages; some are paid in tobacco, calico

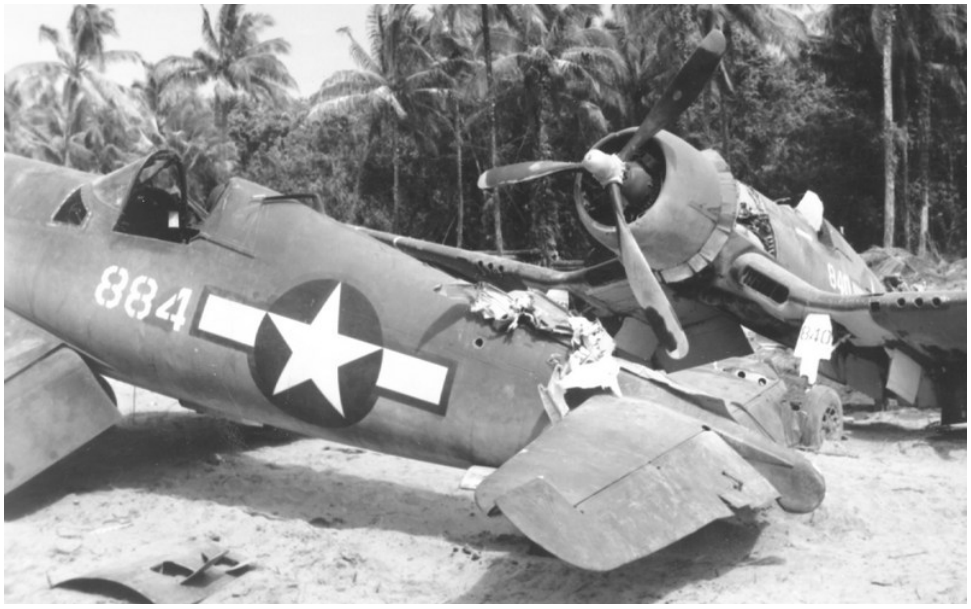
3 With wings and tail surfaces removed, fuselage of *Betty* lies in swamp, ready for the big job of moving it to tidewater for reshipment; *Betty* is Japan's fastest bomber, carrying five to seven men at speeds up to 288 mph, flying as high at 29,000 ft.

4 After disassembling plane, the native crew, which often is surprisingly adept with wrenches and chisels, loads the rear end on a raft; natives on this particular island are more muscular than some; few know anything about airplanes but learn quickly

5 Floating on a raft of logs, forward part of fuselage begins trip to shipping port; souvenir hunters sometimes strip valuable data from crashed Jap planes which are needed so American pilots can get information on firepower, flight characteristics

6 Technical air intelligence officer supervises loading engine of *Betty* in LCT, while part of fuselage sits on raft at left for loading later; this particular plane arrived last month in United States where it will be given careful analysis by aerial experts

U.S. Aircraft Salvage



Wrecked F4U-1s belonging to VMF-214 on Bougainville Island, photo warbirds-online.org

As the war turned in favor of the Allies in mid-1943, more replacement aircraft were available and supplies plentiful. More U.S. wrecks were abandoned, or left at growing bone yards. The pace of daily combat operations and accidents meant that more aircraft were written off due to operational causes instead of enemy action. Since there were plenty of brand new aircraft available, fewer of these aircraft were salvaged if beyond the borders of air airbase.

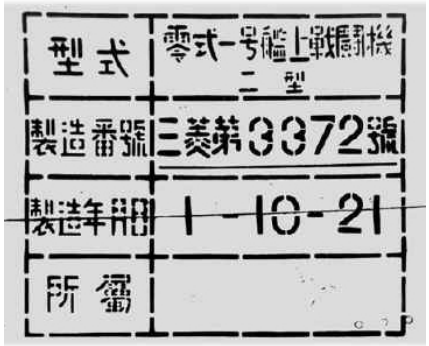
Wrecked F4U-1, BuNo 02576, ended upside down after a rough landing and was scrapped, photo courtesy aviationartstore.com

Data Plate Collecting

Crashed Enemy Aircraft Reports (CEARs) were not systematically compiled and written until around April 1943. Later, CEAR reports gave way to far more extensive reports which also included "Japanese Aircraft Makers Plates and Markings Reports," and derived their name from the thousands of plates, or "Tinnies" that had been recovered and attached to 5" x 7" cards bearing the same name. In February 1944, it had been agreed that name plates or name plate data on enemy equipment were required in order to gauge the output of each company making the items of equipment, and so that bombing the most productive companies might be arranged. The project was not begun until the Philippine operations. It proved a most useful exercise and took up a great deal of time for the intelligence units. A special unit known as JAPLATE was organized to conduct this one task. Eventually 6336 plates or rubbings of details were forwarded for later use by the Air Force. Some of the reports contained sample pieces of fabric attached or photographs of the crash remains. The age and condition of captured equipment as well as the material they were made from, gave an indication as to the general economic health of the Japanese economy. One of the problems with collecting the data plates and other documents was the lack of translators.

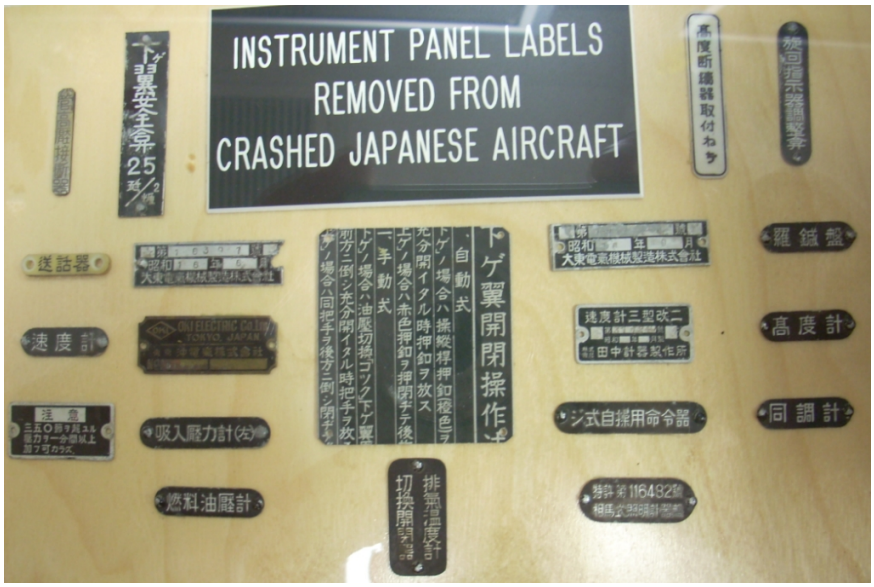
Japanese A6M2N Rufe wreck on Attu Island, photo www.hlswilliwaw.com

Once again the souvenir hunters caused more problems with this plan. The removal of the data plates was usually done by the capturing forces, these data plates were supposed to go to Washington; however some also went into soldiers' pockets as they were "neat souvenirs" and could even be sent home in a letter. A large number of loose name plates were confiscated from the mails by censors. Although it was a War Department policy that military personnel be treated as generously as possible when they request permission to retain souvenirs, it was obvious that items of intelligence value must be held for examination by the proper authorities. Experience demonstrated again and again that the most trivial-looking items can reveal desperately needed information concerning the enemy. When the equipment arrived at the technical intelligence unit with no data plate, there was no way for them to determine if there was a design change and if there was, whether or not they were looking at an older model which had been improved or a newer model with manufacturing shortcuts due to supply.



Main fuselage data stencil from Zero 3372. The first line reads: Type Zero No.1 Carrier Fighter Plane Model 2. The second line reads: Mitsubishi Dai 3372 No. The third line is the date of manufacture: 1941/October/21. Photo courtesy Don Marsh via j-aircraft.com

Japanese KI-21 Sally Bomber compass MK 1 model 2 data plate. This type of compass was fitted above the instrument panel in Sally bombers of the Imperial Japanese Army. The data plate has an Army Star stamped on it. The data plate shows that the serial number is 9623 and the date of manufacture was January and the year was in the Emperor's Reign Showa 16 – this being 1941. Photo www.warbirdsite.com



Display of instrument panel labels removed from crashed Japanese aircraft by American soldiers. On display at the CAF Arizona Wing Museum, photo by Dave Trojan

Technical Air Intelligence Matured

Technical air intelligence was fully developed by the time of the Philippine operations. Collection of Japanese aircraft continued in 1944 and 1945, for analysis by the US Navy and the USAAF. More materiel was able to be shipped back and there was also considerable instruction given to troops on equipment likely to be found. Technical units began to publicize their findings more widely. The TAIU moved from Australia to the Philippines in early 1945 and was responsible for the handling of many tons of captured equipment. An appreciation was gained in the Philippines of the state of enemy technological (and economic) development which was vital to the build-up for the invasion of Japan.

A Japanese Ki-43 at Clark Field in the Philippines is inspected by American troops, photo from Mark Aldrich via j-aircraft

Japanese aircraft under going salvage, photo courtesy Jim Kaltenhauser via j-aircraft.com

American technicians work on an engine from an Aichi H9A training flying boat that was discovered by allied forces on Ibusuki Island after the war, photo NARA

TAIUs operated in Southeast Asia, the Philippines, China, and after the end of hostilities, in Japan. As the war concluded, the various intelligence teams shifted from tactical intelligence to post hostilities investigations. The Allies wanted to assess the state of technological development still remaining intact in Japan. Exploitation intelligence increased dramatically. Captured Japanese airfields, particularly in the Philippines, were especially fruitful. Many of the aircraft were shipped to the United Stated by aboard escort carriers. Their destinations were usually NAS Anacostia, Wright Field, or Freeman Field, Indiana. As the occupation of former Japanese bases commenced in later 1945, the Allies found that the Japanese had kept serviceable aircraft carefully hidden at some of their airfields, and salvaged them as war prizes. Japanese aircraft acquired during the period included examples of the "Zeke", "Tony", "Tojo", "George", "Frank", "Jack", and "Nick" fighters; the "Kate", "Jill", "Judy", and "Betty" bombers; the "Tabby" transport, and the "Dinah" reconnaissance aircraft.

After the end of the war there was no shortage of aircraft wrecks. The majority were in dumps at former bases. The US military decided not to transport most aircraft back to the United States. Aircraft were buried, dumped at sea or just abandoned. The aircraft wrecks were a painful reminder of the long war and the universal feeling about the wartime era was to move on. Enterprising individuals or outside companies acquired the rights to scrap the largest airfields, using huge smelters to melt down the easily accessible abandoned aircraft for their scrap metal value.

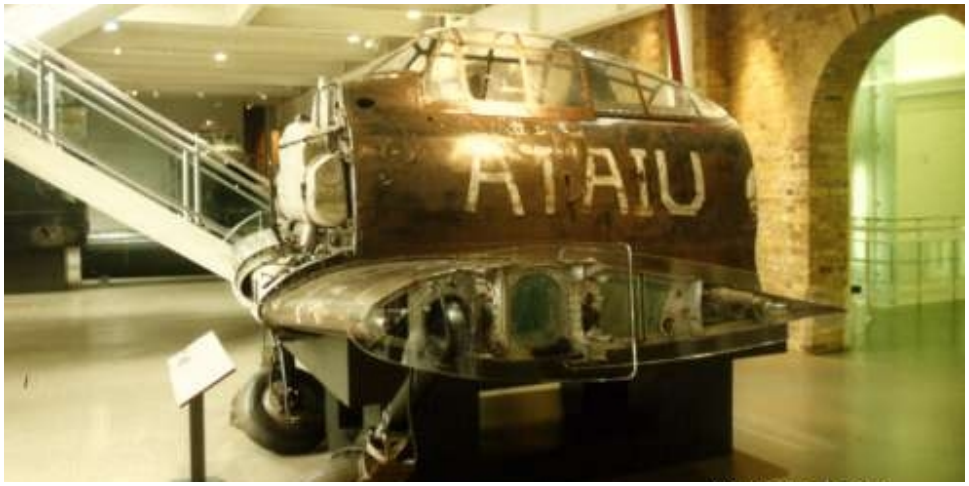
Disposition of Foreign Equipment

General Hap Arnold ordered the preservation of four of every type of aircraft used by the enemy forces. One of each was to be for the USAAF, USN, RAF and Museum purposes. By the end of 1945 the TAIU's had completed their search of the Japanese Mainland and other territories and gathered together the examples at Yokohama Naval Base. Approximately 115 aircraft were shipped to America by the end of December 1945. The aircraft were divided between the Navy and Army Air Force, with 73 going to Army bases and 42 to naval bases. All remaining war service equipment was ordered to be destroyed or scrapped, a task which, as far as aircraft were concerned, took until well into 1947. The Air Force brought their aircraft to Wright Field, and when the field could no longer handle additional aircraft, many were sent to Freeman Field, Seymour, Indiana. Funds, storage space and interest soon dried up and only six aircraft were restored and flown and evaluated by the Army and two by the Navy. During test flights many of the captured aircraft were involved in accidents. They also proved to be difficult to maintain. In addition to aircraft, collectors had acquired 16,280 items (6,200 tons) to be examined by intelligence personnel who selected 2,398 separate items for technical analysis.

Mitsubishi B5N2 Model 12 (Kate) at the Technical Air Intelligence Center, NAS Anacostia Photo from NARA

In 1946, when Freeman Field was scheduled to close, Air Technical Service Command (ATSC) had to move the aircraft. The larger aircraft were sent to Davis-Monthan Field, Tucson, Arizona, and the fighter aircraft sent to the Special Depot, Park Ridge, Illinois (now O'hare airport) which was under the control of ATSC's Office of Intelligence. The Special Depot occupied buildings that Douglas Airplane Company had used to build C-54 aircraft. The aircraft

were stored in these two locations until they could be disposed of in accordance with General Arnold's order. With the start of the Korean War in 1950, the Air Force needed the Special Depot; so the aircraft had to be moved outside. Some were installed in Air Force and Navy museums. The Air Force Museum at Wright Patterson AFB received many. In 1953, some of the aircraft were moved to the National Air and Space Museum in Silver Hill, Maryland. Of the 115 aircraft recovered after the war plus the eleven previously acquired during the war only 46 were eventually sent to museums. The final fate of most was to be scrapped.



A6M5 cockpit section only, recovered from Tebrau airfield, Malaysia by an Allied Technical Air Intelligence Unit on display at the Imperial War Museum, London. It was part of one of a captured aircraft flown briefly at the end of the war for assessment, photo from Mitsubishi zero.tripod.com

Conclusion

Clearly, technical air intelligence played a crucial role in the allied victory in World War II and contributed to shortening of the war. The success of locating, recovering and analyzing enemy aircraft greatly contributed to the Allies knowledge of enemy aircraft. To know how the enemy's equipment operates is the best way to defeat it. TAIU deserve greater recognition for the work they did. One can only wonder what they might have achieved if they were organized differently and worked in a more cooperative environment. We may have more examples of enemy aircraft surviving today.

I would like to gratefully acknowledge the references used in this story including:
j-aircraft.org
pacificwrecks.com
Naval Aviation News story dated 15 June 1944
Book titled: Piercing the Fog by John F. Kreis
Article "End of JAAF and JNAF" by Peter Starkings

Atsugi airbase after the Japanese surrender 1945, photo courtesy ww2incolor.com