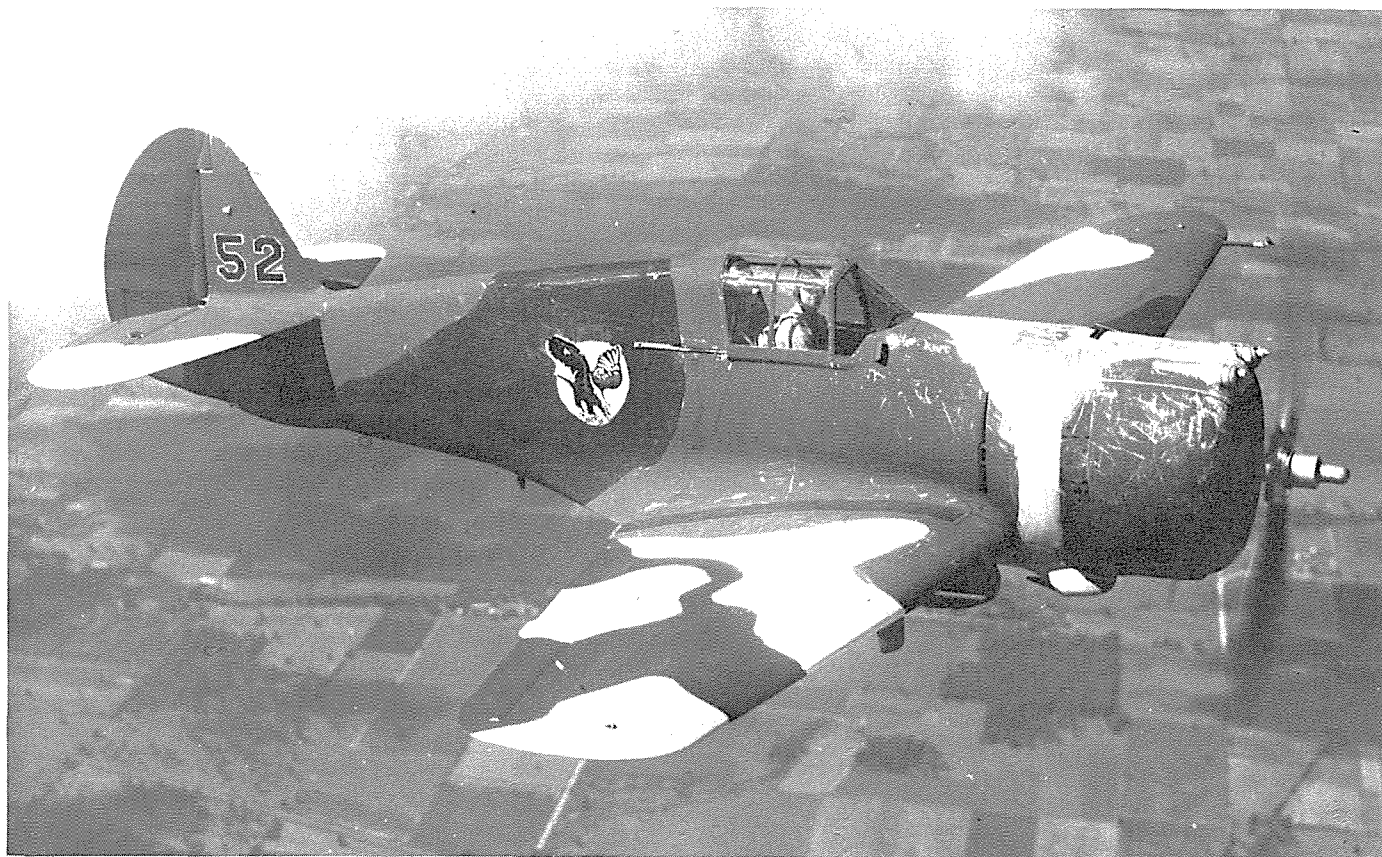




The Curtiss P-36 in Squadron Service

by Charles R. Hyer

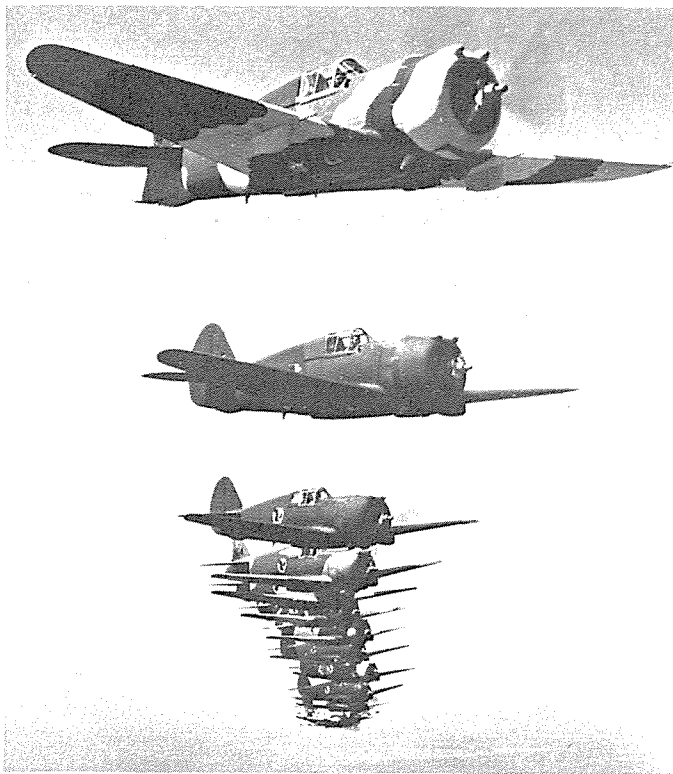
The turbulent years of the middle and late thirties brought great changes to the U.S. Army Air Corps and the American aviation industry in general. The American pursuit airplane (the name itself was a throwback to WWI) was entering a new phase. Previous to the Seversky P-35 and Curtiss P-36, many U.S. fighter aircraft were really refinements of WWI pursuits.

Most aviation readers are familiar with the Pursuit Competition of 1936. The P-35, designed by Alexander P. de Seversky, and the P-36, designed by Donovan R. Berlin, emerged as the winners. Seversky was officially named as the winner and was awarded a contract for 77 aircraft, but Curtiss was really the big winner when, a year later, they were awarded a contract for 210 airplanes.

The P-36 was to sire thousands of examples of the P-40, essentially a P-36 with an inline engine. Also, 14 P-37s and a single P-42 were based on the design.

The P-36 was a good airplane and was equipped with a good engine, the Pratt & Whitney R-1830. To underscore the point, P&W produced more 1830s than any other reciprocating engine. The P-36A used the R-1830-13 initially and the P-36C the R-1830-17. (Usually, at overhaul, most P-36As were re-equipped with the more powerful -17 engine.)

The P-35s and P-36s, with their metal construction, retractable landing gear and enclosed cockpit would set the example for all U.S. fighters to follow in WWII.



Flight of camouflaged P-36As of the 27th Pursuit Squadron as they practice their routine over Michigan in mid-1939. (T. Barnett Collection)

2nd Lt. Robert L. Mathews in his aircraft PA 52 as it appeared at the 1939 Cleveland Air Races. (T. Barnett Collection)

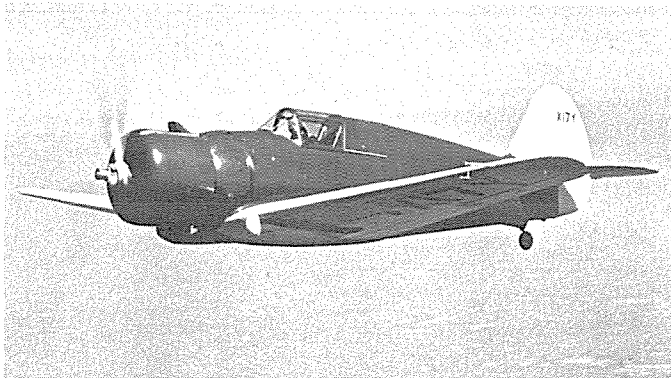
Curtiss was an old line supplier of airplanes to the Air Corps. Starting as early as 1924 with the PW-8, they had produced many fighters for both the Air Corps and the Navy. Not noted as a breaker of new ground with previous offerings, some were, in fact, quite obsolete when produced. The P-36 did break new ground and proved to be a fine aircraft, liked by pilots and ground crews alike.

The story of pursuit aviation in the thirties is a story of air fields. In the early thirties the Air Corps had four pursuit groups in the continental United States: the 1st at Selfridge Field, Michigan; the 8th at Langley Field, Virginia; the 17th at March Field, California; and the 20th at Barksdale Field, Louisiana. When the 17th switched to an attack assignment it left only three pursuit groups. In addition to these the Air Corps had the 16th Pursuit Group at Albroom Field, Canal Zone; the 18th Pursuit Group at Wheeler Field, Hawaii; and the 3rd Pursuit Squadron at Nichols Field, Philippines. This was the sum total of U.S. Air Corps pursuit aviation.

When the P-36 arrived on the scene Europe was on the verge of the second Great War. The Air Corps was in a pitiful state with regard to fighter aircraft. The Boeing P-26, obsolete by any standards, was the standard pursuit aircraft, with many squadrons still using numbers of P-6Es, P-12s and PB-2As. All this while Europeans were flying Hurricanes and Messerschmitts.

Except for some early problems with fuselage skin wrinkles the P-36 was for all intents and purposes a success. It was not without problems. Everyone who had anything to do with the airplane remembers the hated shotgun starter. When it worked it was great, but when it didn't, it could be quite a problem. John A. Ziemba, a mechanic with the 27th Pursuit Squadron at Selfridge Field, recalls that the shotgun starters were later replaced with electric starters but this does not appear to be altogether true.¹ The P-36s that arrived at Albroom Field in 1939 still employed the despised unit.

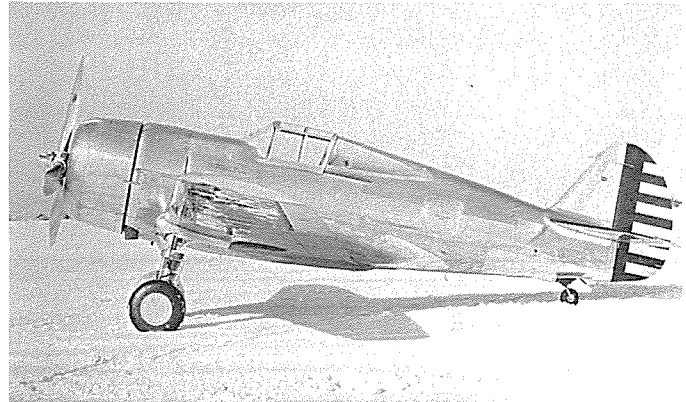
Humidity in the Canal Zone was detrimental to the gunpowder in the shotgun shells and pilots were warned to open the breech slowly on a misfire. The breech was located near the pilot's knee and the possibility of the smoldering powder exploding in the open breech was real. One can only imagine what it would have been like in a wartime situation with fighter pilots scrambling to intercept enemy bombers in airplanes equipped with shotgun starters!



Prototype Hawk 75 first flew in May 1935 with an experimental Wright twin-row radial. The engine was a failure. (R.L. Cavanagh Collection)

Another problem encountered with the airplane was with the uniquely rotating and folding landing gear. In service use, a bulkhead in the landing gear compartment would sometimes shift due to hard landings causing the gear to fail to lock in the down position. This allowed the gear to fold. The problem continued into the P-40s and was alleviated by frequent inspections of the bulkhead and performing retraction tests on a regular basis.

Ground loops were somewhat of a problem but nowhere as bad as with the first P-40s, which were vicious ground loopers. The problem was cured in later models by changing the landing gear geometry.



One of the original three service test models. The Air Corps specified the P&W R-1830 engine. The designation was Y1P-36. (Dick Korns Collection via R.L. Cavanagh)

Selfridge Field—The 1st Pursuit Group was for some years the only pursuit group in the Air Corps. Selfridge Field, near Mt. Clemens, Michigan, was an old airfield and had been home to the 1st Pursuit since the early twenties. Though the field had two paved runways, pursuits usually landed on the grass.

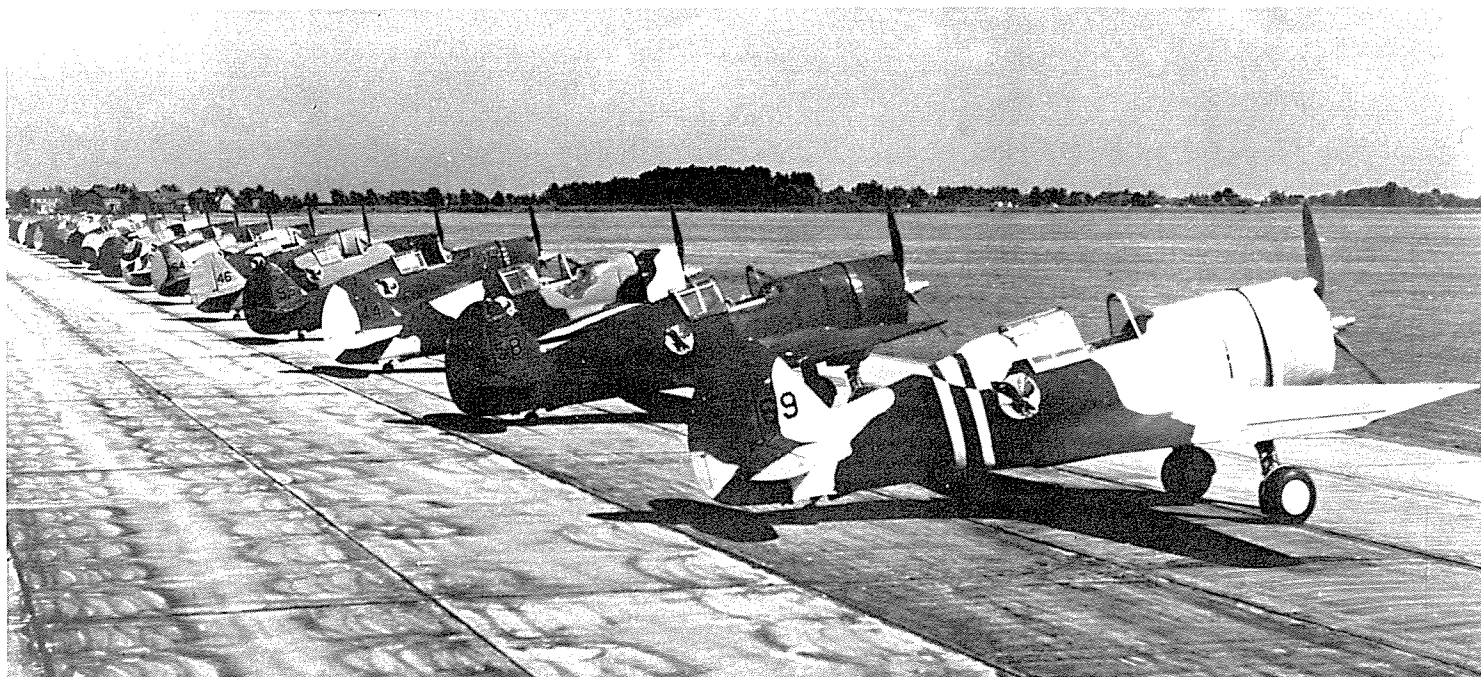
The 1st, composed of the 94th, 27th and 17th, was, at the time of the arrival of the first batch of P-36As, completely equipped with Seversky P-35s.² The 94th began receiving their P-36As on November 1, 1938, and by November 19th there were 25 based at Selfridge. Thirty "C" models were delivered to Selfridge between March 28, 1939, and May 4th. At least 25 went to the 27th Squadron with the rest going to Headquarters Squadron.

Many P-35s remained based at the field after the 94th and 27th received their complement of the Curtiss pursuits. The 17th never did reequip and retained the Seversky until re-assigned to Nichols Field in the Philippines.

The P-36 did quite well at Selfridge and (then) 2nd Lt. Edgar "Sig" Romberg, a pilot in the 94th, remembers that the airplane was easier to fly than the P-35. "But I don't know, really, if it was easier or I just got to be a better pilot." As mentioned, the P-35s remained at Selfridge and the pilots of all squadrons flew them, along with P-26s and P-36s.

Woodrow Wilson Korges, a 2nd Lt. in the 27th, soon found that the P-36 flew a little differently than the P-26 he was used to piloting.

"We used to fly our P-26As over to the Packard Proving Grounds which was west of Selfridge and land on the football field. We would go over to the caretaker's cottage, which was



The 27th's camouflaged ships lined up on the ramp at Selfridge Field.
(T. Barnett Collection)

nearby, and shoot the breeze with him over a cup of coffee. Later, we'd fly back to Selfridge.

"When we got our P-36s I decided to fly over and buzz his cottage. I did a barrel roll and found out that it took a P-36 1,200 feet to do a barrel roll. Twelve hundred feet was my exact altitude when I started the maneuver. I barely missed every tree in his front yard and saw people running for cover as I went through.

"Later that afternoon I returned in a P-26 and landed and apologized to them."

"Woody" Korges lives with his wife Sandy in a comfortable home in the brown hills above Stanford in California. A retired colonel and a retired junior high school teacher, his long career in the Air Force started when he applied for cadet training on October 12, 1936.

He held a BS in chemistry from Texas A&I and arrived at Randolph Field for his physical in a group of 100. Korges was accepted but to illustrate how selective the Air Corps was at that time, one of his friends was turned down because his bite was not quite perfect.

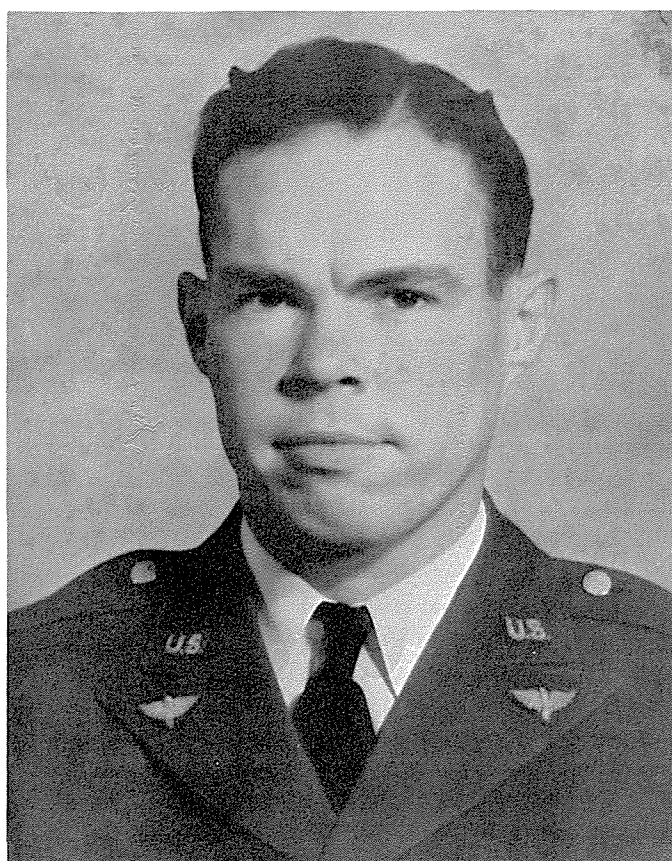
As Korges tried to console him the friend said bitterly, "They must think I'm going to fly that plane with my teeth."

Requirements for the cadet program were tough in those days. One rule was that the applicant had to be single. Some of Korges' classmates had even obtained mutually agreed to divorces and remarried after being commissioned. One of his squadron mates had remarried and later got a "real" divorce.

"I gave my country the best years of my wife," he reflected ruefully.

After pursuit training at Kelly Field, Texas, Korges was assigned to Selfridge Field in 1937. A young (22 years) "hot" pilot, he was soon flying P-26s and P-6Es around the Selfridge area.

"You could hear the whine of that Curtiss *Conqueror* for miles. The plane would only do about 360 mph straight

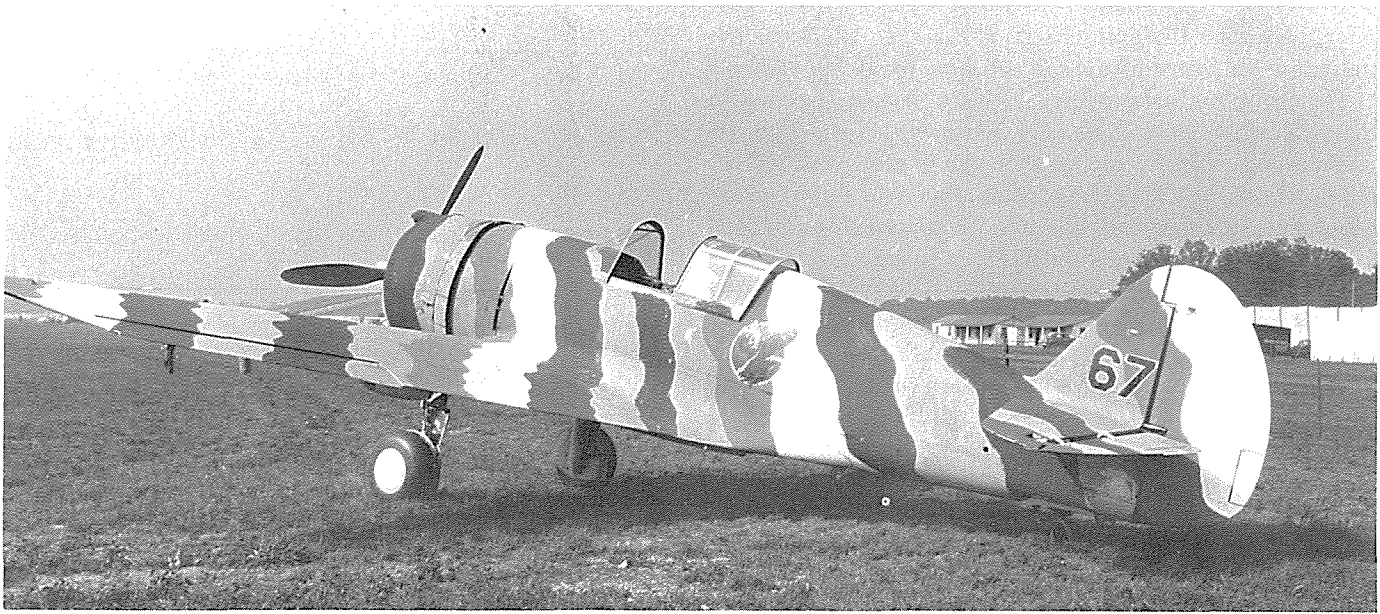


2nd Lt. Woodrow Wilson Korges as he looked as a cadet. He was Armament Officer in the 27th and spent months after the war started trying to get the P-39s 37mm cannon to fire consistently. His nickname was "Click" because of his telegraphic skills.
(Korges Collection)

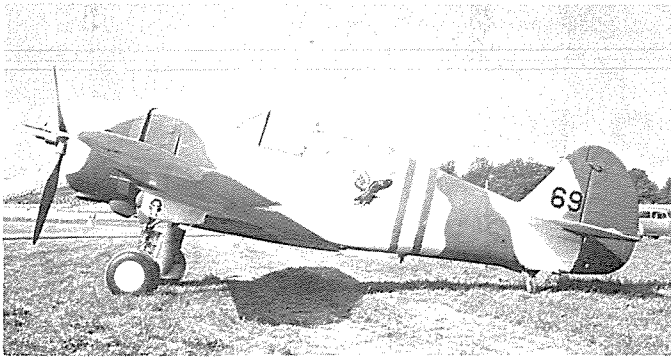
down. Then someone pulled a wing off and we were told not to dive them anymore. They were getting old."

He gets a mischievous look in his eye when he recalls flying over the field's tarmac with two other squadron mates in their P-26s at an altitude of less than 20 feet . . . inverted!

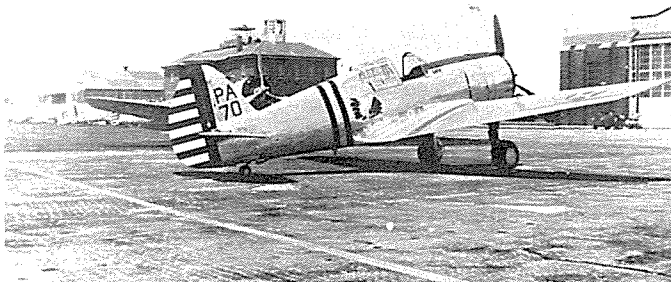
"There was a blown-up photograph of that stunt hanging in the Officers' Club for a while, but they took it down



PA 67, "Ole Barber Pole," was flown by Lt. William J. Feallock at the 1939 races.
(Gordon Williams Photo via Bowers)



Major Willis R. Taylor's PA 69 parked at Cleveland. (Burton Kemp Photo)



Maj. H.H. George's P-36A at Selfridge Field in 1939. George was C.O. of the 94th. (AFM)

because it was a bad influence on the other pilots."

When P-36s replaced the Severskys, Korges and the other pilots of the 27th and 94th soon checked out in them. Some had already flown them as the practice of the Air Corps at that time was to bring pilots of the 1st Pursuit to Wright Field to service test new or "Y" type aircraft.³

The 27th Pursuit Squadron had put on a show at the 1938 Cleveland Air Races with their P-35s and early in the summer of 1939 the 27th was named as the priority squadron to represent the Air Corps at the 1939 races. Members of the squadron were alerted, bulletins were posted and all activity was directed toward assurance that the final demonstration would be flawless.⁴

The idea of camouflaging the airplanes probably originated with Group C.O. Maj. Willis R. Taylor and the responsibility for implementing the idea was delegated to Lt. Don L. Wilhelm, Jr., the squadron's engineering officer. Using such colors as orange, dark and light green, white, sand, brown, etc., the airplanes created a sensation at the air races and in the aviation community as a whole. The crew chiefs were allowed to let their imagination run wild and the results were spectacular.⁵

Many hours of practice were flown during the summer of 1939 and about two weeks before the air show the first team was named. Practice and skull sessions were intensive. Everyone was determined not to lose his place on the team and there was usually some bickering and strong words as to who was out of position and who should have been where.⁶ One can imagine pilots gathering at their favorite hangout, The Crow Bar, in Mt. Clemens, hashing over the daily practice sessions.

The crews kept the planes in top condition in spite of many hours of full and three-quarter engine operation and the throttle jockeying necessary to keep in position. It speaks well, not only for the mechanics but also for the P-36 airframe and engine.⁷

Curtiss, Pratt & Whitney and air race officials were on hand for the team's arrival in Cleveland and ready with food, drink, transportation and lodging. Pilots were paid \$5 per day for their participation.⁸

There was a banquet attended by all the notables in aviation at that time. On hand were famous flyers, industrialists, aircraft manufacturers, engine, oil and gasoline representatives, parts suppliers, inventors and important persons from other countries. The Army and Navy pilots were well back against the rear wall near an entrance to the banquet room. It was an interesting, inspirational evening.⁹

The 27th's demonstration went well. The 18 airplanes of the squadron were all lined up in front of the crowd at the beginning of the show. A radio signal was given and all 18

pilots fired their shotgun starters. Amazingly, all 18 engines started on the first shot and did the same for all five shows!¹⁰

The flying routine consisted of three six-ship flights with three elements of two ships each. This tactical formation was maneuvered violently and close to the ground with all elements and flights changing echelon alignment from right to left or vice versa in the middle of a "whippordill" turn, used in order to minimize the time between passes in front of the stands. Also, "drill" formations were flown, such as flight lines, squadron line, flight echelons and squadron echelon. The show wound up with a rat race or "Lufbery Circle" flown at nearly full throttle. It was quite spectacular.¹¹

Upon landing, the 18 P-36s taxied up to the stands and, in a line, bowed to the crowd by holding the brakes and revving up the engines.¹²

All during the summer of 1939, Capt. Robert S. Israel, the squadron's executive, had led the squadron in practice flights in aircraft No. 69. Major Willis Taylor had been to Tactical School at Maxwell Field, Alabama. Upon his return he replaced Israel and, Israel, in an airplane on the ground, was in radio contact with the squadron during their maneuvers. He was responsible for the repertoire and prompting of the various members.¹³

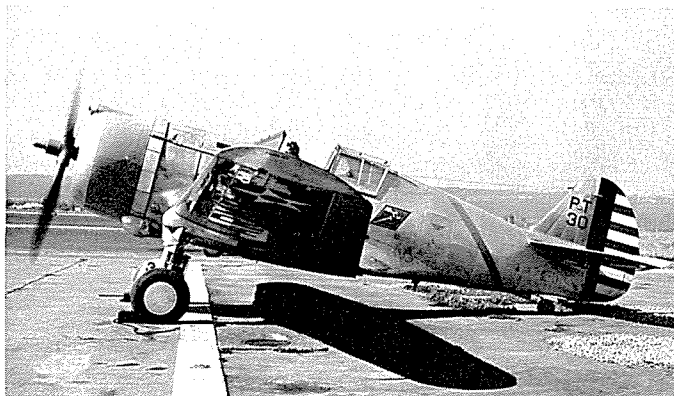
Major Taylor therefore was not as familiar with the flight routine as he could have been. There was one hideous moment during the first day when Maj. Taylor turned the wrong way at the bottom of a dive right over the spectator stands. This was during the tactical maneuvering with everything crossing over. Aircraft went every which way . . . like a bomb had been exploded in their midst. Fortunately there were no collisions, although there were some badly shaken nerves.¹⁴

That year the National Air Races, and in particular individual units, did not receive much news coverage because the Luftwaffe put on a bigger show that very day by bombing and strafing Poland. It was the beginning of the end of the races as they had been during the thirties.

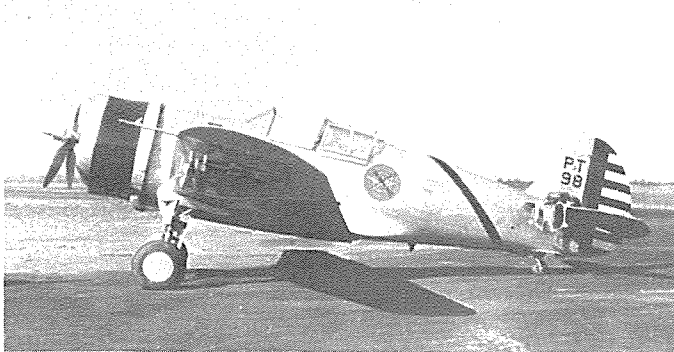
The 27th really didn't keep their P-36Cs for very long. In August of 1939 they were turned over to the newly formed 1st Pursuit Squadron at Maxwell Field, Alabama, which was a part of the 23rd Composite Group. The squadron was charged with further testing of camouflage color schemes and other testing needed by the Air Corps at that time. The planes were ferried to Maxwell Field in their bizarre paint jobs along with 20 pilots from the 1st Pursuit Group, who formed the nucleus for the new squadron.

Things were changing rapidly for the 1st Pursuit Group, the oldest such unit in the Air Corps. The 17th Squadron was transferred to the Philippines and was replaced by the newly formed 71st Squadron. Most of the P-36As of the 94th were sent to Wheeler Field and Albrook Field. In line with the Air Corps' expansion program, new groups were forming at Selfridge, Moffett, Hamilton, Langley and Albrook Fields. Everything was in a state of flux as pilots, ground crews and airplanes were moved from one group to another and from one airfield to another. Enlisted men were sleeping in the hangars as the permanent barracks were filled to overflowing.

After the P-36s left, the pursuit group reverted back to P-35s and, at a later date, Republic P-43s. They went to war in Lockheed P-38s.



PT 30 is the "B" flight leader of the 79th Pursuit Squadron, 20th Pursuit Group. Squadron color is yellow. (G. Williams via Peter Bowers)



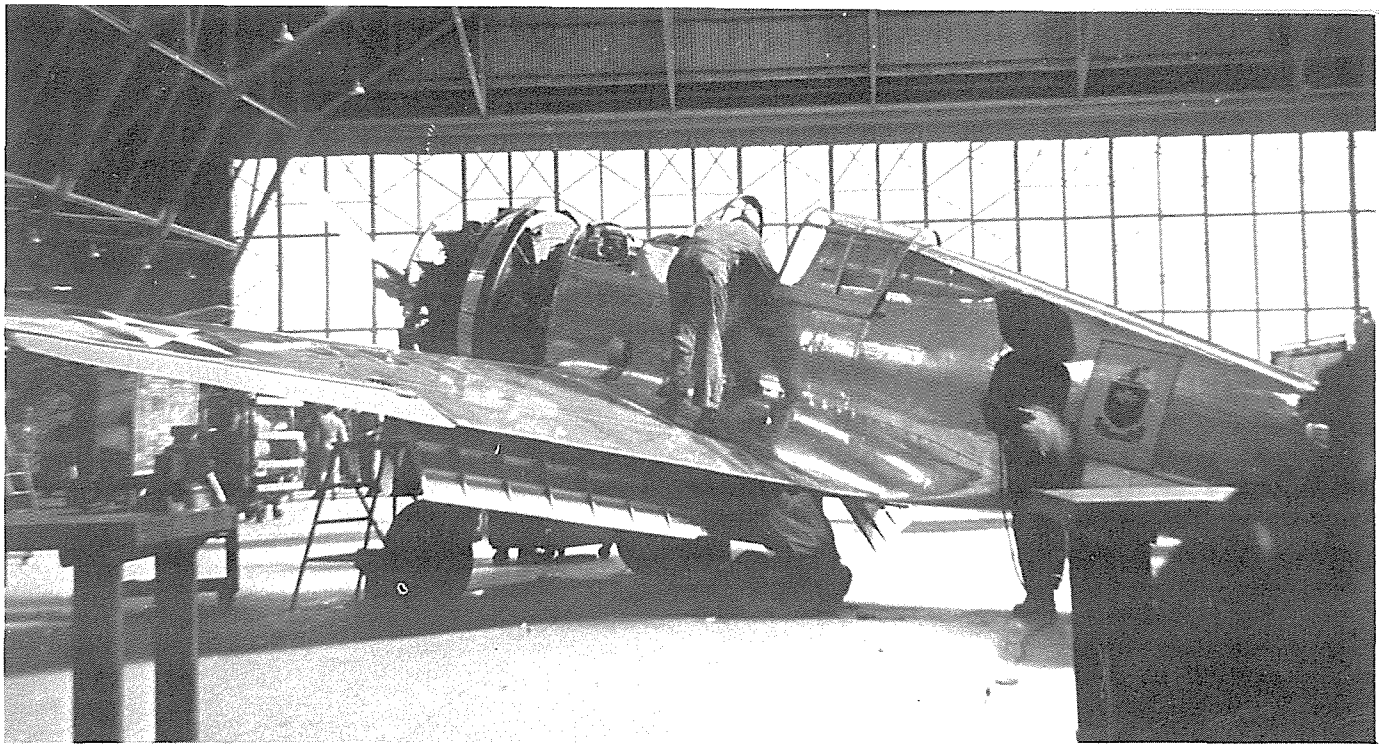
PT 98 is the "B" flight leader of the 55th Pursuit Squadron. The squadron color is insignia blue. This was later changed to white. (AFM)



Col. Charles A. Lindbergh buckles up as he prepares to leave Moffett Field in his P-36A. Lindbergh was attached to the Inspector General's office in 1940. (Lowell Markee Collection)



Running up his engine as crew chief and mechanic stand by, Lindbergh gets ready for takeoff. He was on a nationwide trip inspecting bases for the Inspector General. Plane is from Bolling Field. (Lowell Markee Collection)



P-36A at Chanute has 10AB atop left wing (10th Air Base). Material Division crest is on fuselage. (John Lodwick Collection)

Barksdale, Moffett and Hamilton Fields—The 20th Pursuit Group, composed of the 55th, 77th and 79th Pursuit Squadrons, was the first unit to receive P-36s in group strength. By the end of December 1938, they had received 61 aircraft. By June of 1939 the group had lost three planes due to crashes. Two aircraft of the 77th Pursuit Squadron were destroyed on June 10th in a violent thunderstorm near Barksdale and the third crashed at Benton, Louisiana, earlier in the year.

The West Coast had been without a pursuit group since the 17th Pursuit Group had been switched to an attack group in 1935. On November 8, 1939, the 20th was transferred to Moffett Field, Sunnyvale, California, and took up residence in the big dirigible hangar there. With Group C.O. Ross G. Hoyt, the group flew 57 airplanes to Sunnyvale, with a stop-over at March Field, California.¹⁵

The group began flying training missions in the Bay Area and another plane was lost by the 77th due to a crash. 38-62 crashed and burned near San Francisco on January 23, 1940.

On February 1, 1940, the 35th Group was formed at Moffett Field with cadres from the 20th and P-36As began transferring to the new unit. Both groups were moved to Hamilton Field in Marin County, north of San Francisco and the 20th began receiving their new Curtiss P-40s in September 1940, passing their P-36s along to the newly formed 35th.

The 35th, composed of the 18th, 20th and 21st squadrons, began training with their newly acquired P-36As early in 1940. By November 1941 all three squadrons would be gone, one to Alaska and two to Nichols Field in the Philippines. The airplanes would be at Elmendorf Field, Alaska, and Wheeler Field, Hawaii.

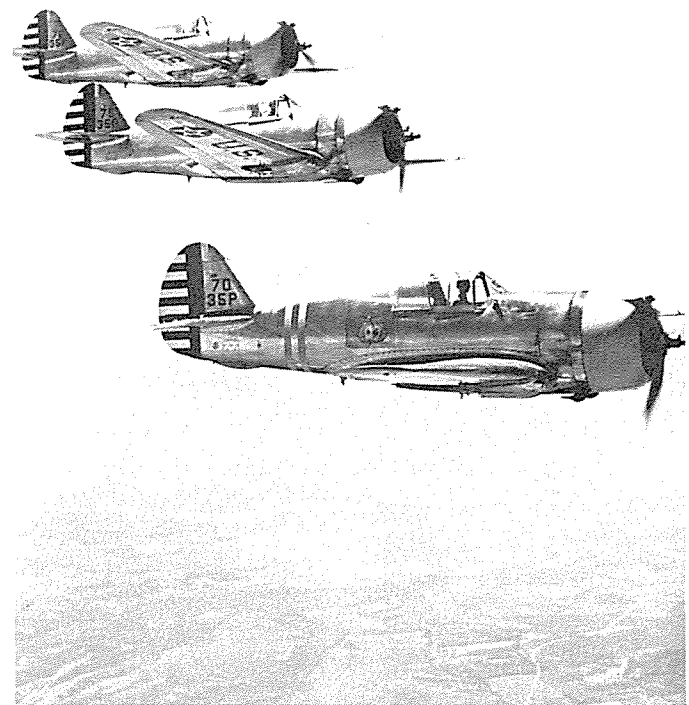
Howard D. Nelson, a crew chief with the 18th, remembers, "Our planes went to the Sacramento Air Depot for modifications to the fuel and oil systems to help cope with the extreme cold conditions expected in Alaska.

"They were then taken to San Francisco where they, along with flight and ground crews, were loaded aboard the U.S.

Army Transport CHIRIKOF. The CHIRIKOF had been used to haul fish before being taken over by the Army Transport Service."

Nelson had joined the Air Corps in 1939 at Ft. Mead and was sent to Moffett Field for basic training.

"We lived in 'Splinter City,' our name for the wooden barracks at Moffett. It was December and it rained every day and we were ankle deep in mud most of the time. Among other things, we received lectures on V.D. and the places in the local area to stay out of. Most of us farmboys didn't even know what the initials 'V.D.' stood for.



Aircraft of the 21st Pursuit Squadron over Northern California. Unauthorized squadron insignia is displayed. Squadron color is "golden yellow." (Col. Everett Stewart Collection via Tom Mitchell/R. Cavanagh)

"On February 1, 1940, they moved us down a few barracks and we were in the 18th Pursuit Squadron. We were marched down to the huge dirigible hangar where our planes were kept and put to work sweeping out the hangar and polishing the P-36s. What amazed me most was that you could work all day and not get dirty. Not like working on tractors where you got greasy before you even started."

While Nelson was based at Moffett his brother paid him a visit and Nelson took him for a meal at the enlisted men's mess. In early 1940 the Depression was still real and Nelson's brother, out of a job, was so impressed with the meal he immediately joined up too.

Most of the fledgling mechanics were sent to Chanute Field for additional training but Nelson and a few others were kept with the squadron, learning their trade by practical experience and the watchful eye of the Top Sergeant.

"Sergeant Miazga was in charge of the engineering section and briefed us on the engine and aircraft exam. I studied for it and passed it and was promoted to Staff Sergeant. (It meant no more KP.) I would have made Tech but I was only in the Air Corps for less than a year.

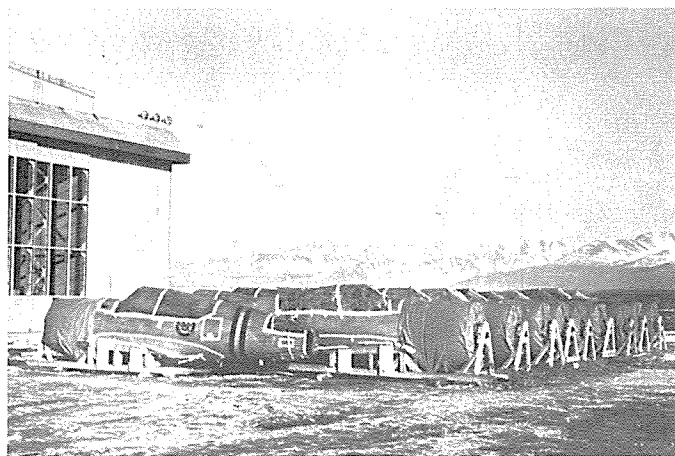
"The Sergeant told us, 'When these guys get back from Chanute they will be telling you how certain jobs should be done. You tell them to go to hell and do it the way I showed you and you won't get in any trouble.'"

The Group, as mentioned, moved to Hamilton Field on September 10, 1940, and it was an ideal base, but it was not to be for long. On January 10th, the 18th was detached from the 35th Pursuit Group and assigned to the Air Force of the Alaskan Defense Command. Only single men were sent. Married enlisted men were disbursed to other stateside units.

Elmendorf Field—On February 8, 1941, the USAT CHIRIKOF, loaded with 20 P-36As, gas trucks, ground equipment, pilots and ground crews of the squadron, pulled out of Ft. Mason, San Francisco, bound for Alaska. Bunks five high had been installed in the ex-fish hauler and the galleys were in the bow of the ship. When the cooks came on duty at four in the morning they would start the cooking fires.

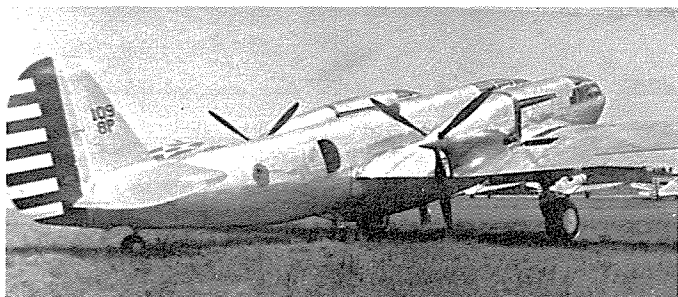
"My bunk was near the bow of the ship and by 4:30 A.M.

Officers of the 18th Pursuit Squadron en route to Alaska on board the USAT Chirikof. Norman D. Sillin, Squadron C.O., third from left in front row. (Howard Nelson Collection)



Crated aircraft of the 18th Pursuit Squadron at Elmendorf Field. Note insignia of 55th Pursuit Squadron is still on at least one airplane.

(Howard Nelson Collection)



Each squadron also received YFM-1 Airacudas for testing. This one is from the 36th Pursuit Squadron.

(Roger Caldwell Collection)

the smoke from the stoves would begin filling our sleeping space and would drive us out onto the deck and the freezing weather. They were never able to fix those stoves," Nelson recalls.

The CHIRIKOF stopped at Seattle, Yakutat and thence to Seward, where they unloaded. After leaving Seattle the ship had had an engine failure and was dead in the water for several hours. The trip had been a rough one and everyone was glad to debark, though they didn't have much to look forward to.

They were loaded on a train of the Alaskan Railroad on February 20, 1941, and the planes and equipment were hauled up the next day. When the crews saw Anchorage their hearts sank. It looked like a ghost town. They reached Elmendorf a few miles further and were treated to a view of rows of wooden barracks, a big unheated hangar with a frozen mud floor and a concrete landing strip. The hangar windows had no glass in them.

The planes had been disassembled and crated at Sacramento Air Depot. The wings, props and empennage had been removed and the engines had been cosmolined. The ground crews began the difficult job of assembling their P-36s in that frigid hangar. Steam jennies froze up and so did fingers, ears and faces. Using a chain hoist and brute force, the airplanes were reassembled, with none damaged and no one injured.

One of the first problems encountered after assembly was with the shotgun starters. They were reluctant to start the engine after the plane sat all night in -20 degree temperatures. One even blew up and went through the firewall. Later they were torn down at each periodic inspection and lubed

with a special oil so they would not stick internally.

As operations went along crews and pilots learned to cope with the difficult Alaskan operations. The barracks were cold, the hangar was cold and the flight line was cold but somehow they managed to function.

"We were so homesick that at night we would sneak out to the airplanes and sit in the cockpit, all bundled up, listening to stateside radio over the aircraft radio. Sometimes, in the morning, the battery would be dead."

Nelson and four other mechanics were sent down to repair a YP-37 that had ground-looped at Ladd Field. The pilot was so shook up that he had to change his pants when he got back to his quarters. Though Nelson had his camera with him, he didn't get any shots of the red-winged YP-37. He was too busy fighting off the bear cubs that kept climbing up on the work stand looking for food.

On his return to Elmendorf he and several other mechanics were sent down to Spokane, Washington, to assist in picking up the squadron's new P-40Es. The P-36s had done a yeoman job until the newer planes were ready, though at least five had been lost, two due to crashing in the ocean and one, 38-61, in a midair collision with a Martin B-26. When replaced by the newly arrived P-40Es, some of the P-36s were ferried back to the States.

With the coming of Pearl Harbor and WWII the "good times" were over. Crews had to keep fire pots under the engines to keep them warm, with guards to watch that the fire pots didn't catch the airplanes on fire.

The 18th still kept pulling lousy duty as the squadron was shifted to Kodiak, Adak, Amchitka, Cold Bay, Attu and other wonderful spots, much of this done while living in tents in those frigid temperatures.

The 18th had operated and waged war under incredibly harsh conditions and did everything that was asked of them. When all was said and done, the 18th had received no medals, commendations or citations. They had just done their job in a cruel, difficult environment and had given no quarter.

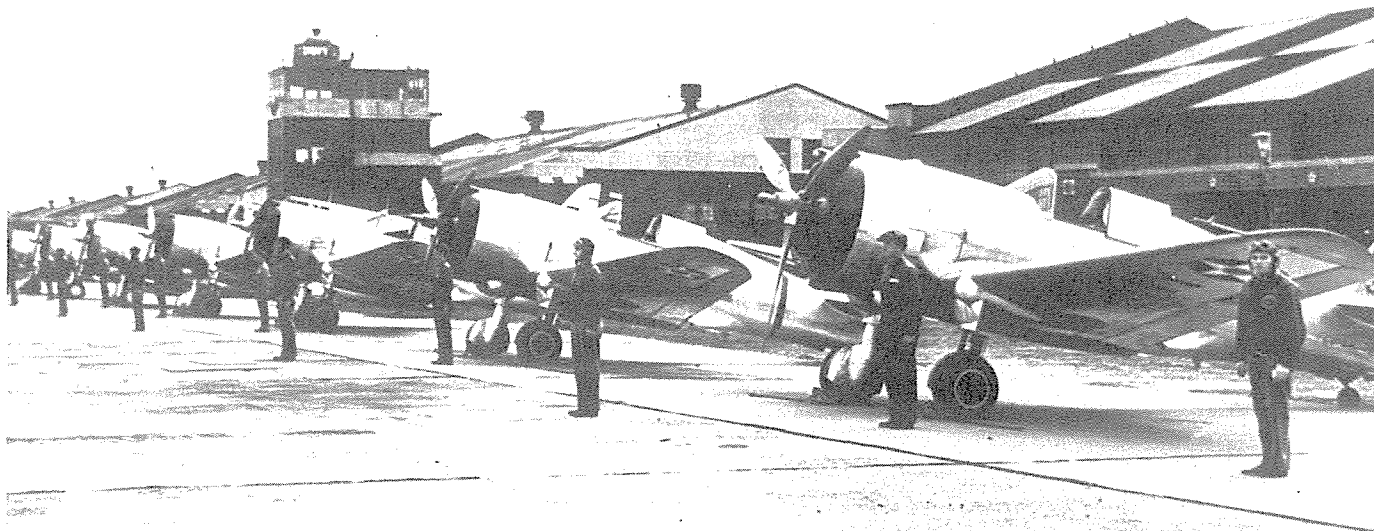
In October 1943, Nelson was transferred out and had to repair the B-18 that he flew out on. Where was he transferred to? Florida, where else?

Langley Field—Langley Field, Virginia, had been home to the 8th Pursuit Group since 1932. At one time the group consisted of three pursuit squadrons and one attack squadron,

Air Corps planes on display at Bolling Field, Anacostia, D.C. air show in 1939. P-36As of the 8th Pursuit Group on left.

(Hans Groenhoff Photo via Cavanagh/Jess Barrow)





the 37th. The 37th was inactivated in January 1938 leaving the 33rd, 35th and 36th Pursuit Squadrons.

The 8th had been variously equipped with P-6s, P-12s and PB-2As throughout the early and middle thirties. From December 28, 1938, to March 24, 1939, 78 P-36s were delivered to the Group. These aircraft were primarily P-36As, but included one each D, E and F for service evaluation, which were assigned to Headquarters Squadron.

Langley Field, located next to the Back River, was a beehive of activity during 1939 and 1940. The 8th had re-equipped with their P-36As and each squadron also received a Bell YFM-1 *Airacuda* for evaluation. Also, each squadron received three Curtiss YP-37s for service testing and evaluation.

Langley was headquarters for the GHQ Air Force and NACA. There was a constant parade of new and old aircraft passing through. Roger E. Caldwell of Oil City, Pennsylvania, was a raw recruit with the 2nd Recruit Co. at Langley and watched in awe as he saw airplanes he had only seen in model airplane magazines.

He had joined in Pittsburgh, Pennsylvania, on December 9, 1939, at the age of 18 and was sent to Langley Field, Virginia, for basic training. He looked, wide-eyed, at B-17s, B-18s, C-39s, A-18s, PB-2As and the Boeing B-15 as the drill sergeant marched him and his fellow recruits up and down

Men and aircraft of the 33rd Pursuit Squadron stand inspection at Langley Field. Squadron color is red. (Marty Copp via Cavanagh)

the ramp next to the 2nd Recruit Company's hangar.

"The drill sergeant really had to yell when all those bombers were preflighting their engines."

Caldwell went off to mechanics school and when he came back in August 1940 things were, if possible, more confused. The new P-40s had started arriving and a new group, the 36th Pursuit Group, had been activated. The 8th was operating a mixed bag of P-36s and P-40s while passing along their P-36As and YP-37s to the newly formed 36th Group, as their new ships arrived.

Caldwell was assigned to the 36th Pursuit Squadron of the 8th Pursuit Group and, like everyone else who had anything to do with the P-36, remembers this typical anecdote:

"One day the shotgun starter blew up and the charge was blown back into the pilot's stomach. So, under the direction of a sergeant, a bunch of us hooked a bungee to the prop blade. If the crew chief got the prime just right the engine would fire up on the first try. The bungee would sure hurt when it hit you on the legs."

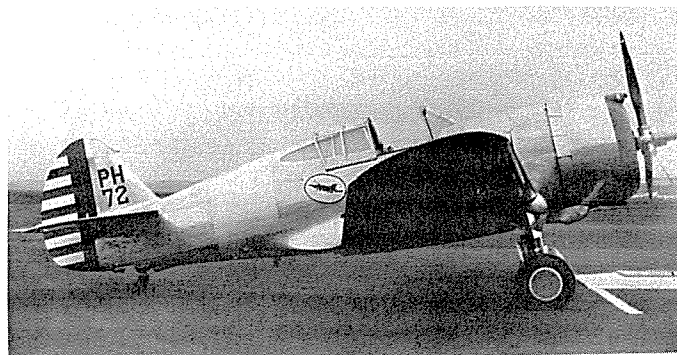
Caldwell was assigned to one of the new P-40s, PH 105, and was soon a crew chief, though still a slick-sleeved private.

"We had little real problems with our P-36As but during the summer of 1940 there were 26 crack-ups in 28 days with P-40s.

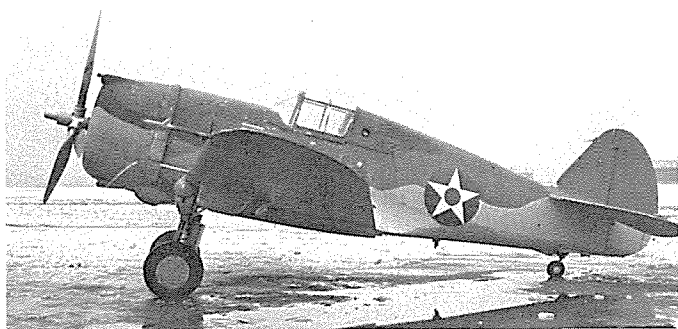
"A Congressional investigation followed. The P-40s were required to make wheel landings only. When the three-point attitude was reached, the stabilizers were blanked out.

"Eventually the length of the tail wheel strut was lengthened to a 'storklike' length. Extra wing filets were added to keep the wing from stalling and the NACA spent hours flying P-40s around the landing pattern, going slower and slower, trying to figure out what to do."

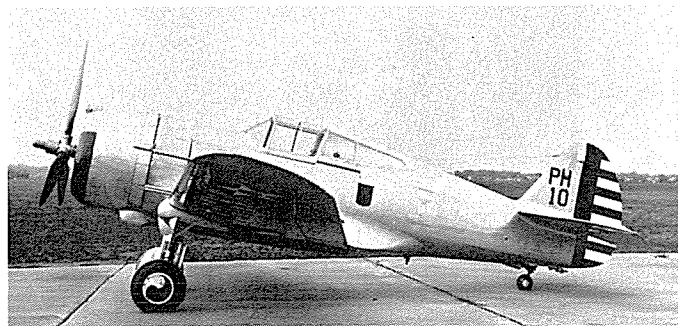
The 8th Group moved to Mitchel Field, New York, on November 14, 1940, taking their P-40s with them. All the P-36s had been dealt off to the new 36th Pursuit Group or sent to Albrook and Wheeler Fields. On January 6, 1941, the



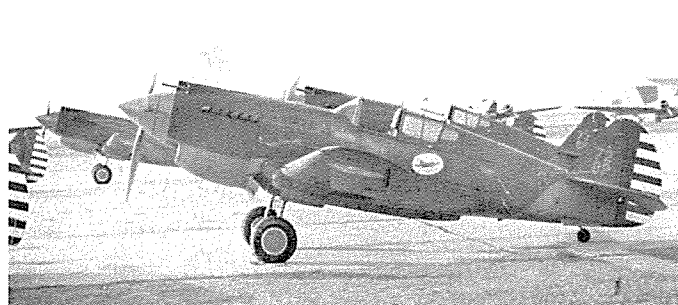
PH 72 of the 35th Pursuit Squadron. Engine cowl leading edge and wheel discs are yellow. (Peter Bowers Collection)



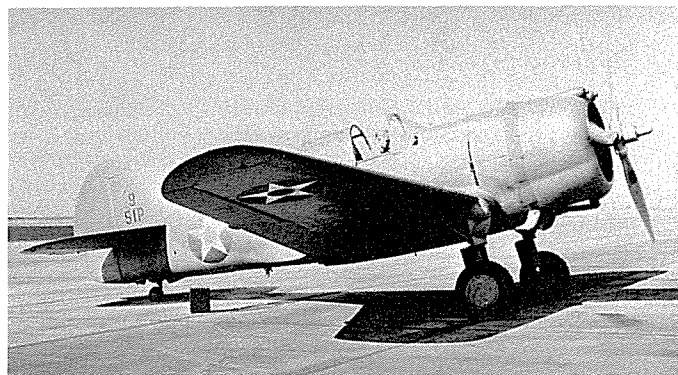
Camouflaged P-36C is possibly from the 1st Pursuit Squadron.
(Howard Levy Photo via Bowers)



Another PH 10. This one is an XP-36D. (AFM via Cavanagh)



Yellow-nosed P-40Bs of the 35th Pursuit Squadron at Mitchel Field, N.Y., after the Group moved from Langley. (Roger Caldwell Collection)



O.D. and gray P-36A of the 51st Pursuit Group. Group was formed at Hamilton Field in 1941. (Peter Bowers Photo)



Ship No. 51 of the 56th Pursuit Group appears to have yellow cowl leading edge. This Group later went to England with P-47s. (Peter Bowers Photo)

36th Group was sent to Posey Field, Puerto Rico, to guard the eastern approaches to the Panama Canal as war clouds loomed. The Air Corps was deploying its pursuit groups as the international situation deteriorated.

Langley Field was left to the bombers.

At Mitchel Field, Caldwell remembers that the situation was even more hectic than at Langley, with new planes, new groups all training and then the Bell P-39Ds started arriving. A friend of Caldwell's was busy painting out the tail stripes and adding stars to the sides of the P-40s in compliance with an Air Corps directive.

While still at Langley, 8th Pursuit Group P-40s had, on two occasions, flown over to Norfolk Naval Base, taxied to the dock and were loaded on the USS WASP. The ship went to sea and the planes took off and flew back to Langley. On August 6, 1941, the 33rd Squadron was detached from the Group and sent to Iceland aboard the WASP where they became part of the Iceland Defense Command.

The planes and men of the 8th Pursuit Group were being scattered around as the Air Corps engaged in its huge expansion program. Roger Caldwell was no exception. He was soon transferred to the 60th Squadron, 33rd Pursuit Group.

On the eve of WWII the Air Corps was girding its loins.

Albrook Field—The 16th Pursuit Group had been formed at Albrook Field on December 1, 1932, and during the early and mid-thirties operated P-12s and P-26s in keeping with their responsibility of protecting the Panama Canal. In September 1939 the Air Corps, with the view to strengthening the Panama Air Force with more modern aircraft, dispatched 30 P-36As to Albrook Field. The airplanes were taken from the 94th Pursuit Squadron at Selfridge Field and the 8th Pursuit Group at Langley Field.

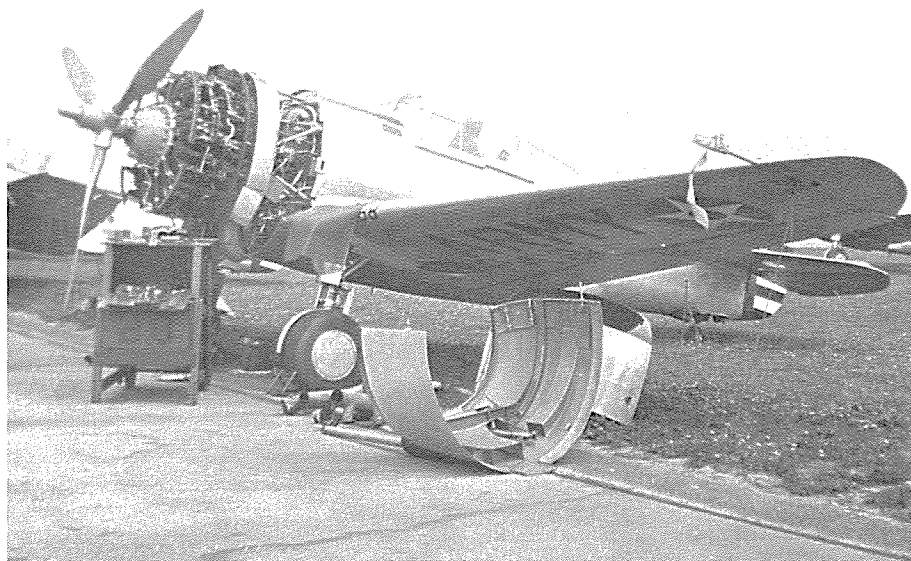
The 30 airplanes were flown south through Mexico and Central America in the early days of September. Three were lost in a storm near Cape Metapals [sic]¹⁶ on the 4th of that month.

A remarkable story is that of Lt. George "Bo" Ranney whose plane was one of those that crashed. He and several others were en route to the Canal Zone when several hours north of Panama they encountered fog, rain, low clouds and very limited visibility. The planes scattered and several crashed. Ranney flew low over the water but kept visual contact with the shoreline. He finally ran out of gas and landed in very shallow water close to shore. He salvaged what he could from the plane and began walking south. He swam rivers, fought insects, hunger, heat and the jungle until somehow he reached Panama.¹⁷

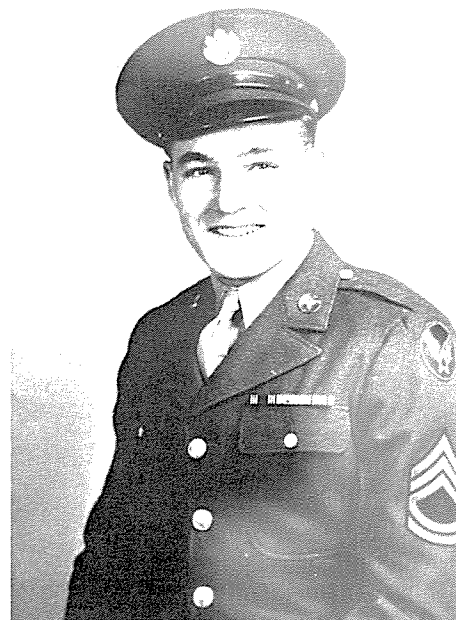
The 27 P-36As that reached Albrook were divided among the Group's three squadrons, the 24th, 29th and 43rd, with some allotted to Headquarters Squadron. Training missions were flown as the crews began to acquaint themselves with the new airplanes. By the end of the year four aircraft had been lost due to crashes, one when a pilot took off with no gas.

This may have been the same plane that then Lt. Robert Baseler talked about in an interview with the author.

"The damned fool jumped in *my* plane and tried to take off without checking the gas gauge. He crashed at the end of the runway." Baseler was still mad about it 40 years later.



Replacing an exhaust stack on PA 88 of the 94th Pursuit Squadron.
(Fred Dickey Photo via Olmstead)



James Dias was a crew chief in the 29th Pursuit Squadron at Albrook Field. He was later a flight engineer and pilot.
(James Dias Collection)

Baseler had been named C.O. of the 43rd Pursuit Squadron while still a lieutenant because "We were so short of qualified pilots." He went on to become C.O. of the 325th Fighter Group, the famous "Checker Tails," in North Africa and Italy and retired as a colonel.

Panama was also short of ground crews and mechanics. A mechanics school was established 80 miles north of Albrook at Rio Hato for the purpose of training new recruits. Among those new recruits was James Dias now of Paradise Valley, Arizona. He joined the Air Corps out of Irwin, Pennsylvania, in 1939 and was sent to Ft. Slocum, New York, for basic training. While at Ft. Slocum he met Claude Coakley, another recruit, and they became pals. They are still close friends today. Dias had taken a few flying lessons and Coakley had built a few model airplanes and read the aviation pulps of those days. Both had a keen interest in aviation.

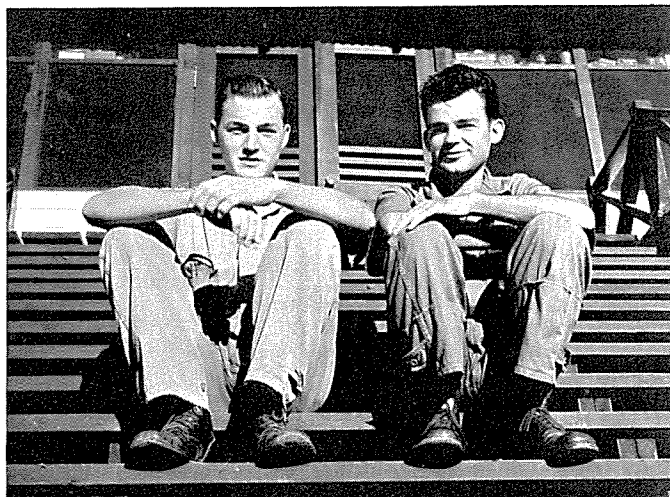
After basic at Ft. Slocum, where they "marched a lot and changed uniforms four times a day," the pair boarded the USAT AMERICAN LEGION with other brand-new GIs and sailed for Panama, where they were assigned to the 16th Pursuit Group, Dias to the 29th and Coakley to Headquarters Squadron. Most of the other recruits continued on to Hawaii and the Philippines.

Dias was assigned to the line as a mechanic, even though he had no previous training. Coakley, in Headquarters Squadron, was assigned to a BC-1 with 12 other fledgling aeromechs. It was obvious that the Group was not ready to assimilate the influx of new recruits, no matter how badly they were needed.

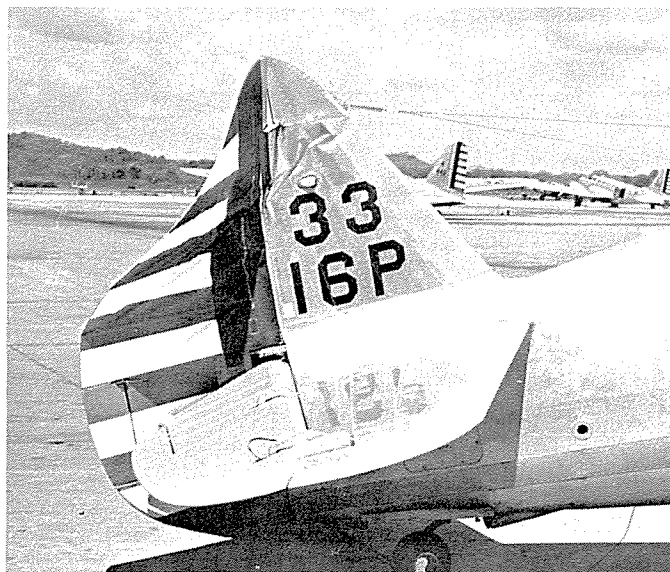
When things got sorted out, Dias, Coakley and the other new recruits were sent north to Rio Hato to attend mechanics school.

"We had a Thomas-Morse O-19 and other airplanes to work on and R-1340s in run-up stands to run and troubleshoot," Dias recalls. The training at Rio Hato was good and it was good duty, away from the hustle and bustle of Albrook Field.

"There was a nice beach at Rio Hato and we made good



James Dias (l.) and Claude Coakley sitting on the steps of the mechanics school at Rio Hato in 1940.
(James Dias Collection)



Aircraft 38-60 was in a midair collision at Albrook. Later repaired.
(Simpson Historical Center via Cavanagh)

use of it." Once back at Albrook they were assigned to aircraft in their respective squadrons.

"The reliability of the P-36 was fantastic. The 1830 was a good engine and the pilots were phenomenal . . . highly qualified, highly motivated and they were there because they wanted to be there," Dias says.

Albrook was an established facility with palm-lined walks, mature landscaping, comfortable permanent barracks and the GIs didn't have to do their own housekeeping. Also, there was no KP or laundry to worry about. Everyone, pilots and mechanics, worked until 12 noon, with the rest of the day off. The mess hall, staffed by San Blas Indians, served excellent food and plenty of it. Nearby Panama City and Balboa were good places to take a pass. Kelleys, in Panama City, was the favorite watering hole for mechanics and pilots alike.

The field itself had grass runways. Field exercises were conducted at Rio Hato, Aqui Dulci and Anton where crews were sent from time to time to operate and maintain the airplanes in a more primitive environment. At Albrook it was spit and polish but when on field problems crews operated more casually.

In 1940, two P-36s were lost due to crashes. One, 38-41, was lost in the ocean. On February 1, 1940, the 37th Pursuit Group was formed and Dias' 29th Squadron lost their P-36As to the new Group and reverted back to Boeing P-26s. The Air Corps was in the midst of its expansion program. On the same day that the 37th Group was formed, the 31st at Selfridge, the 35th at Moffett and the 36th at Langley were also activated.

Parts shortages were a problem in 1940 and in particular, aircraft tires. Worn tires grounded several of the Groups' P-36s. When a shipment arrived there was always a scramble by crew chiefs trying to get tires for their airplane.

In 1941, Claude Coakley transferred to the 24th Pursuit

P-36As parked on the grass at Albrook Field. White-cowled ships are 29th Pursuit Squadron. Red-cowled planes from the 43rd. (James Dias Photo)



Thomas-Morse O-19 was used at Rio Hato mechanics school for trouble shooting. (James Dias Collection)

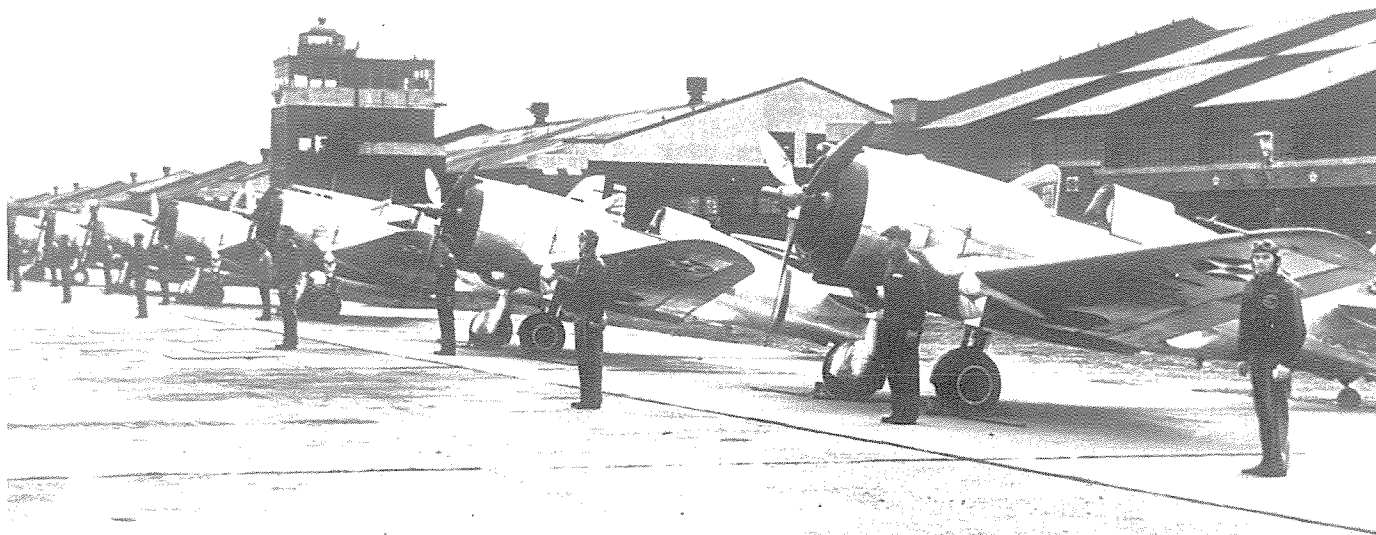
Squadron and became Squadron Inspector. Dias also became Squadron Inspector for the 29th, a tribute to their motivation and their training at Rio Hato.

When the news of the Pearl Harbor attack reached Panama, Dias was on leave in Panama City. He hired a cab and rushed to Aqui Dulci, where his squadron was at the time. He was issued a .45 pistol and a machete and everybody began covering the P-26s with tree branches and camouflage netting.

Newly arrived P-40Es at Albrook had neither machine guns nor even machine gun mounts installed in the airplanes. When a panicky supply officer pressed the head supply sergeant too hard, the exasperated top kick finally blurted out, "What do you want me to do, Lieutenant, eat a crowbar and s---t those mounts?"

Dawn patrols were started and the four-hour days were over. As more personnel arrived the days of the permanent barracks were also over and almost everyone was sleeping in tents.

Claude Coakley and several mechanics went on detached





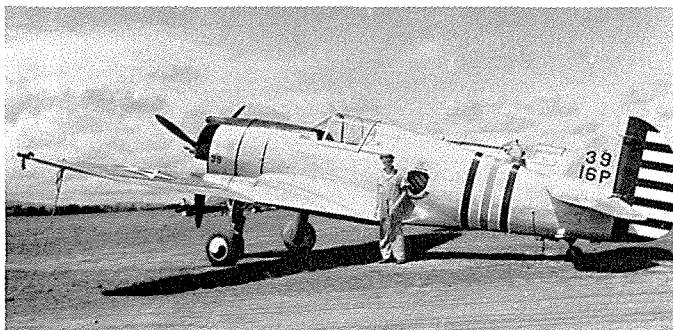
Jim Dias sits in the cockpit of 16P33, the C.O.'s aircraft of the 29th Pursuit Squadron. Each squadron used wheel cover ying-yangs of the squadron color and black. (James Dias Collection)

service to Salinas, Ecuador, with three P-36s to provide fighter cover for antisubmarine patrols. They spent three months in Salinas, which is right on the coast.

"They were using B-24s for antisubmarine missions. The P-36s flew with them as far as they could and then turned around and came back.

"When we got back to Albrook most of the squadrons were starting to equip with P-40Es. There were also some P-40Bs and the P-39s weren't far behind."

As the new fighters arrived in greater numbers the P-36s, once the pride of the group, were shuffled off to Central and South American countries. They had done their job in the training of pilots and filling the void of modern fighter equipment while the Panama Air Force was building up for the challenge that was coming, the war with Germany and Japan.



16th Group C.O.'s airplane. Fuselage stripes are red, yellow and black. Cowl is segmented red (upper left), yellow (upper right) and white. (James Dias Photo)

Wheeler Field—The days at Wheeler Field before Pearl Harbor were nothing if not peaceful. Flight and ground crews worked half days as they did in Panama. Pilots did not really fly much and were sometimes hard-pressed to get in their minimum flight time, four hours a month. Money was short in the Air Corps in those days and promotions came hard. If an enlisted man made Pfc. in his first hitch he considered himself lucky and would probably sign up for a second one.

The 18th Pursuit Group had been at Wheeler Field since 1927. In the mid-thirties the Group had been composed of the 6th Pursuit Squadron, the 19th Pursuit Squadron and the

26th Attack Squadron. The Hawaiian Air Force, typical of Air Corps forces outside of the continental United States, usually got the unwanted, cast-off equipment of the U.S. squadrons. Hawaiian squadrons were still using P-26s when the Japanese attacked Pearl Harbor.

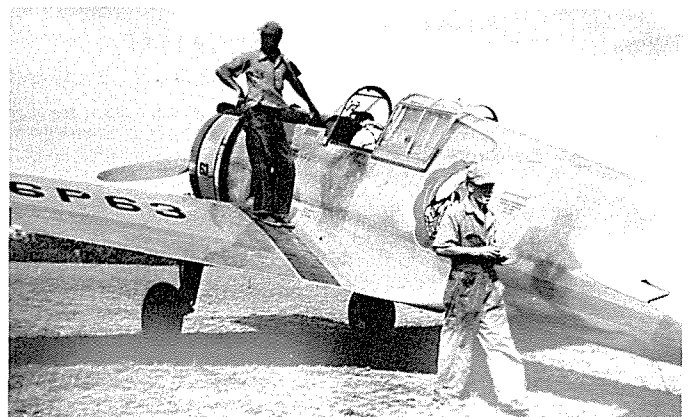
The 26th Attack Squadron was transferred to the 11th Bomb Group on February 1, 1940, about the same time that the 78th Pursuit Squadron was transferred to the 18th Pursuit Group, making the Group a standard three-squadron pursuit group. Later, in 1941, the 44th and 73rd Pursuit Squadrons were activated at Wheeler Field and became part of the 18th.

On October 23, 1939, the Air Corps shipped 20 P-36As to Wheeler Field via U.S. Navy carrier. The situation with Japan had gradually worsened throughout the late thirties and the Air Corps was taking the first step in a program to beef up fighter protection in the islands.

On December 1, 1940, a new pursuit group, the 15th, was activated and as the new P-40Bs and Cs trickled into Wheeler, P-36s were transferred to the new Group. The 15th consisted of the 45th, 46th and 47th Squadrons. The 72nd Pursuit Squadron was activated and joined the Group on October 5, 1941.

On February 21, 1941, a second shipment of P-36As arrived at Hawaii via Navy carrier. Thirty-one aircraft were collected from Moffett, Hamilton, Selfridge and Langley Fields to fill the needs of pursuit squadrons at Wheeler Field until the more modern P-40s and P-39s arrived.

The 15th and 18th Pursuit Groups didn't learn to operate their P-36s without cost. On January 6, 1941, 38-168 and 38-179 were destroyed in a midair collision. On July 12,



Airplane of the 43rd Pursuit Squadron. Cowl leading edge is red with black pinstripe. (James Dias Photo)



Ship No. 15 of the 24th Pursuit Squadron. Cowl is yellow with black pinstripe. (James Dias Photo)

1941, 38-15 and 38-70 suffered another midair collision with both pilots parachuting safely. On August 29, 1941, 38-146 took off from Wheeler and never returned, presumably lost at sea. Finally, on October 11, 1941, two airplanes, 38-83 and 38-108, crashed at sea, possibly from a midair collision.

H.B. Monroe, a 19-year-old recruit, had joined the Air Corps on August 8, 1939, at Syracuse, New York. After boarding the USAT LEONARD WOOD at the Brooklyn Army Base he was sent to Hawaii via Charleston, South Carolina, Panama and San Francisco. The life of the Air Corps moved at a leisurely pace in those days.

"The standard enlistment was three years but you got a year's credit for overseas duty so I picked Hawaii, which was 'overseas'. Therefore, my first hitch was two years."

At Hickham Field, Monroe was sent to mechanics school and scored the highest test score recorded at that time. The six-week course was strictly theory with no practical training. Monroe had no previous aviation training.

News of his high score reached the 47th Pursuit Squadron and they sought him out as a possible tutor for their new recruit mechanics. Monroe accepted and began the task of training recruits. He drew out the systems in colored ink, gave

tests and graded them. The effort paid off as the men of the squadron posted unusually high scores at the mechanics school.

The work done by Monroe was an omen of things to come. After the war, Monroe, who left the Air Corps as a major, went into education and retired, in later years, as a college president.

The Air Corps was beginning a more liberal policy of promotions and Monroe was made a 1st Class Airman, which was one chevron with three rockers.

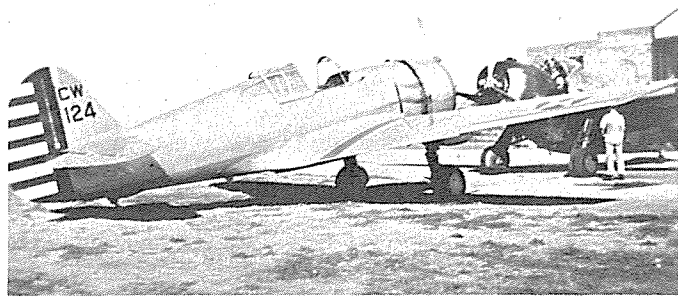
"In those days you could not take your rank with you from one squadron to another if you were below a staff sergeant. If the other squadron requested you and there was a vacancy in their table of organization, you could keep your rank. Otherwise, you reverted back to private."

Monroe recalls that there were A-12s, P-26s, P-36s, P-40s and a BT-2 at Wheeler when he was there. At the aircraft dump at Bellows Field there were still the hulks of Keystone bombers.

"We also had a Martin B-12 and Douglas B-18 for target tow and other squadron work. The B-12 was by far the better airplane."

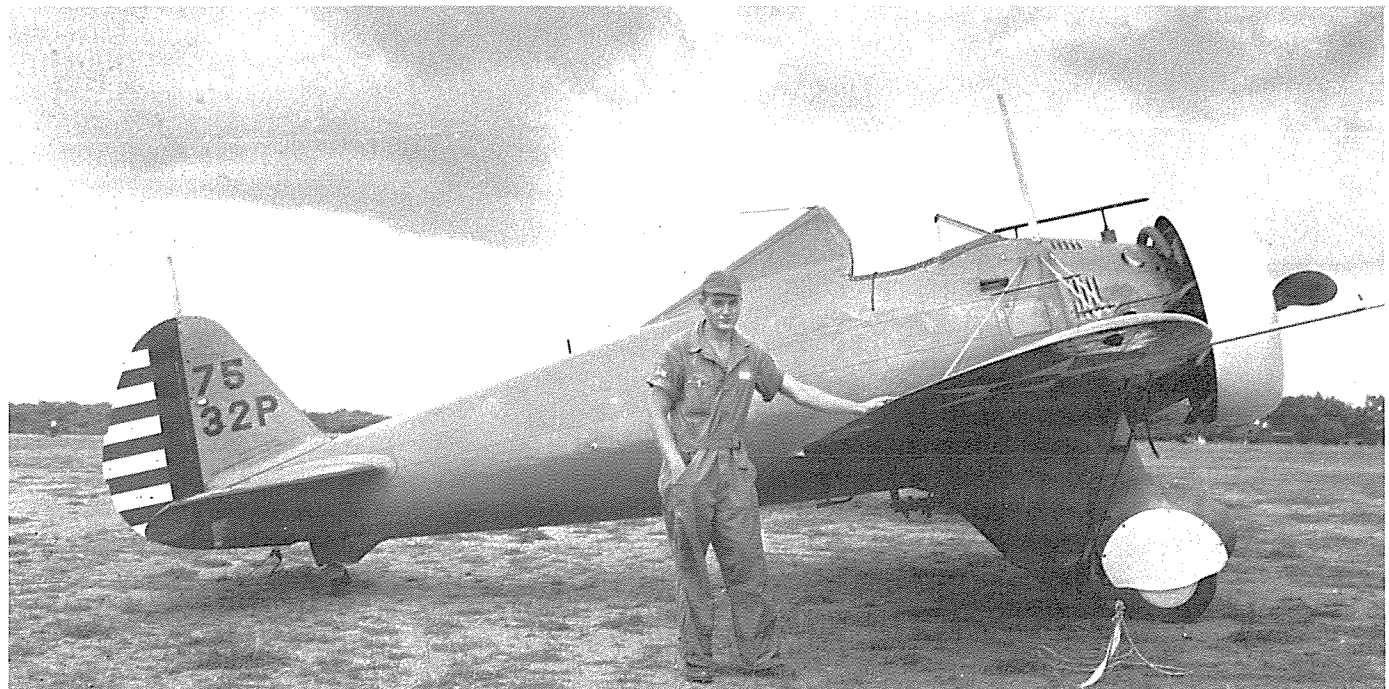
The 47th and other squadrons lived in tents between the hangars at Wheeler Field. The permanent barracks were occupied by the older Group, the 18th. The pace of Army life increased as flight and ground crews began working full days instead of half days and a new mess hall was built which could accommodate all the squadrons. Prior to that each squadron had its own mess hall and cooks.

"HB" enjoyed Army life in prewar Hawaii. Three-day passes were easy to come by. Usually you could get about one a month. He toured the island on his motorcycle and remembers that Army privates got along quite well on their \$21 a month (\$18.75 after deductions for laundry, old soldiers' home, etc.).



P-36C of the 1st Pursuit Squadron based at Maxwell Field. Tail designator "CW" is C for Comp. Group and W for 23rd letter. (Collect-Air)

When the 32nd Pursuit Group was activated the 29th Pursuit Squadron turned over their P-36s to the new Group and reverted back to P-26s. (James Dias Collection)



On the morning of December 7, 1941, H.B. Monroe had a huge breakfast of "about four tons of pancakes and sausages" and had walked back to the 47th's tent area where he and several others were reading the bulletin board in front of the operations tent.

"We noticed a huge flight of airplanes flying down the Waianae Range from the direction of Haleiwa. When they got to the edge of the field they started firing their machine guns. Someone said, 'They'll get hell for that.' We thought they were Navy. Then they circled and peeled off and the first airplane dropped a bomb. That was when we saw the red ball on the wings.

"It's the Japs," someone yelled and we knew instantly it was the Japanese and we were at war. There was no question.

"The day before, if you dropped a cup or dish in the mess hall, they held you until they got your name, rank and serial number so they could charge you. If you ever dropped an airplane off jacks or damaged one, it was the end of your career."

The Japanese bombed and machine gunned the airplanes and hangars and many men of the 47th were killed. All their airplanes were parked nose to nose in the middle of the ramp.

"The situation before Pearl Harbor was like this: We had to account for every bullet. They were doled almost one at a time. Everything was locked up and cosmolined. The planes parked on the ramp had no ammo in them."

Monroe and his companions didn't try to fight back. They just tried to stay alive. When they saw a bomb drop they ran in the opposite direction and flattened themselves on the ground. The bullets were harder to dodge. He saw one soldier running down the ramp with one foot blown off, running on the stump. Monroe and several others took refuge in the mess hall, getting as low as they could. They survived unharmed when a lot of their comrades didn't.

After the raid everyone in the 47th was taken to a school outside the gates of Wheeler Field and were billeted there for

three or four days. Then the clean-up and rebuilding began.

Monroe was sent back to the States a month after Pearl Harbor to enter pilot training in the Flying Sergeants Program. After earning his wings he was sent to New Guinea where he flew 130 missions as an A-20 pilot. He had been commissioned overseas and became the most decorated officer in his squadron.

The peacetime squadrons of Wheeler Field had been introduced to real war on the morning of December 7, 1941. The old Air Corps days were gone. The 15th stayed on as the fighter defense for Hawaii during most of the war years. The 18th stayed as Hawaiian defense until 1943 when they went to Guadalcanal, New Guinea and ultimately Saipan with P-38s and P-47s.

Conclusion—The Curtiss P-36 wasn't a great airplane but it was a very good one. It had a fine engine and the airframe was sturdy and well designed. Its performance was certainly on a par with its contemporaries. This was proven by the French and their *Hawk* 75s. Many pilots liked the plane better than its successor, the P-40.

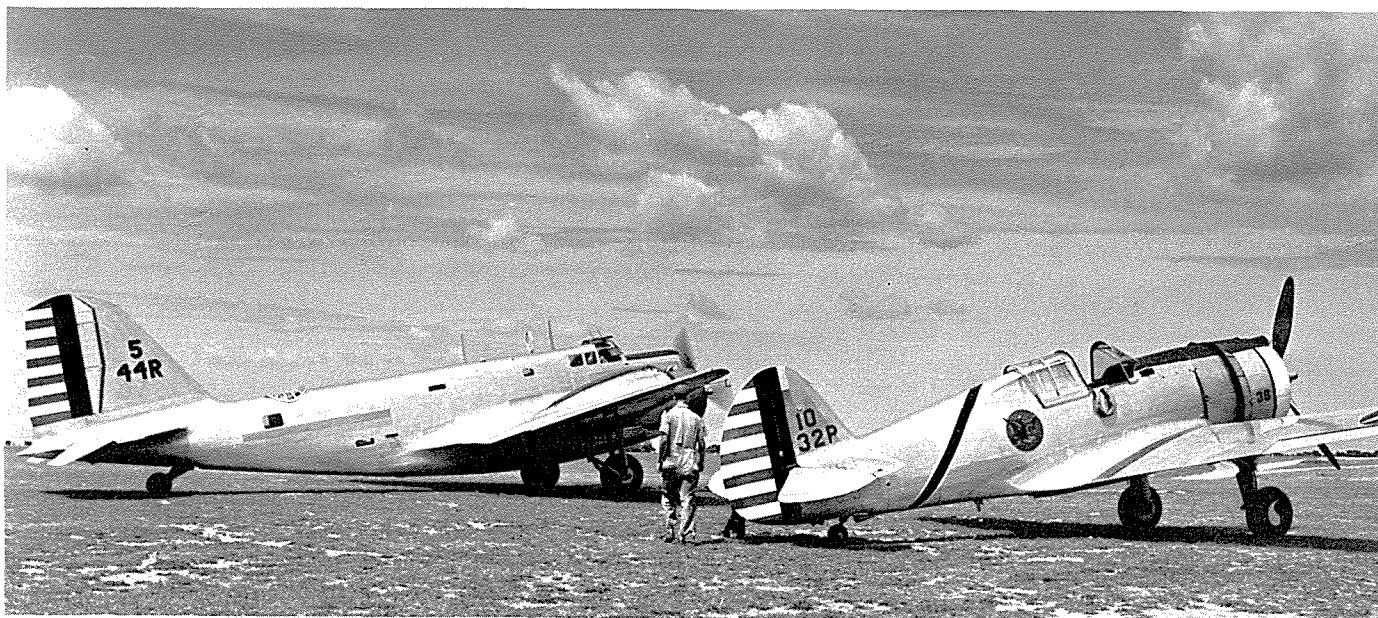
The time of the P-36 was the time of great expansion in the Army Air Corps. They had launched into their 25 group expansion program and the P-36 was an integral part of it. It was available in numbers that made an impact and it served well.

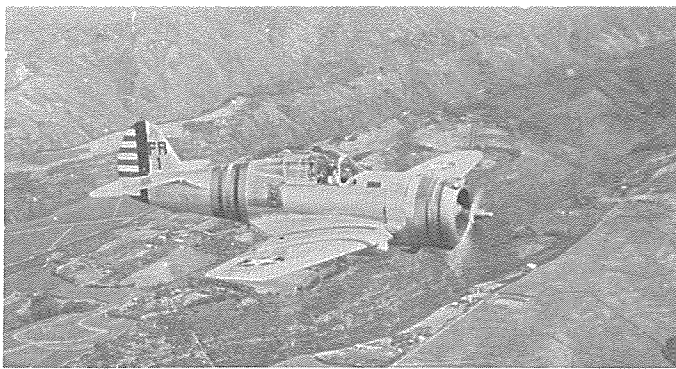
Pilots and ground crews alike cut their eye teeth on the airplane and it prepared them for the more advanced aircraft and challenges that were ahead. Lieutenants who learned their craft in the P-36 went on to become colonels, generals and aces in WWII. It is surprising to see how many mechanics and crew chiefs of the peacetime Army went on to become pilots and commissioned officers during the war years. The men who flew them and the men who crewed them were skilled, dedicated and did the job that was asked of them.

The P-36 served in at least 16 different Groups and 30 Squadrons, probably more. This is a pretty good record for 211¹⁸ airplanes. They were even briefly considered as fighter protection for Wake Island until Marine F4Fs were chosen.¹⁹

The P-36, like the good soldier that it was, also did its job.

32P10 was transferred from the 29th Squadron and still has the former squadron insignia on fuselage. B-18 of the 44th Reconnaissance Squadron in background.
(James Dias Photo)





PR 1 in this familiar shot of the 18th Pursuit Group C.O. Squadron colors for the 18th were red, yellow and blue. (AFM)

NEW GROUPS ACTIVATED — 1939 TO 1941

8-1-39	23rd Comp Group	Maxwell Field, Ala. *
2-1-40	31st Pursuit Group	Selfridge Field, Mich. *
2-1-40	35th Pursuit Group	Moffett Field, Calif. *
2-1-40	36th Pursuit Group	Langley Field, Va. *
2-1-40	37th Pursuit Group	Albrook Field, CZ *
12-1-40	15th Pursuit Group	Wheeler Field, TH *
1-1-41	32nd Pursuit Group	Rio Hata, Panama *
1-15-41	14th Pursuit Group	Hamilton Field, Calif.
1-15-41	33rd Pursuit Group	Mitchel Field, N.Y.
1-15-41	49th Pursuit Group	Selfridge Field, Mich.
1-15-41	50th Pursuit Group	Selfridge Field, Mich. *
1-15-41	51st Pursuit Group	Hamilton Field, Calif. *
1-15-41	52nd Pursuit Group	Selfridge Field, Mich.
1-15-41	53rd Pursuit Group	MacDill Field, Fla.
1-15-41	54th Pursuit Group	Hamilton Field, Calif. *
1-15-41	55th Pursuit Group	Hamilton Field, Calif.
1-15-41	56th Pursuit Group	Savannah, Ga. *
1-15-41	57th Pursuit Group	Mitchel Field, N.Y.
1-15-41	58th Pursuit Group	Selfridge Field, Mich. *
2-21-41	28th Comp Group	Elmendorf Field, Alaska *
10-1-41	24th Pursuit Group	Nichols Field, PI

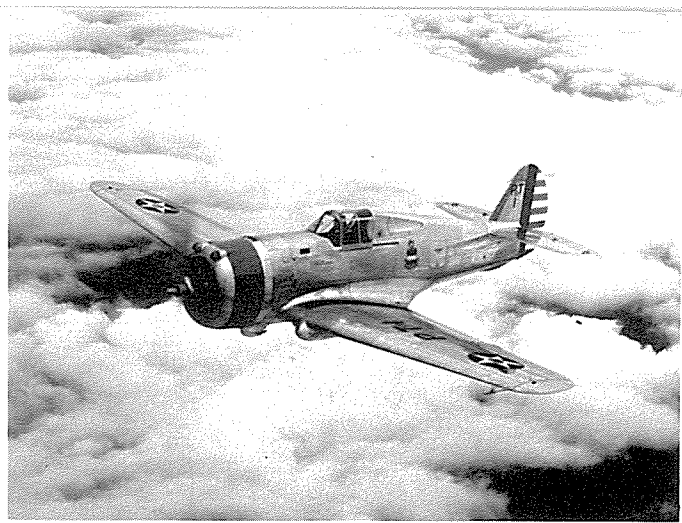
* Used P-36s

PURSUIT SQUADRON COLORS — LATE THIRTIES

Group	Squadron	Color	Insignia	Remarks
1st	17th	White	Snow Owl	P-35s
1st	27th	Yellow	Falcon	
1st	94th	Red	Indian Head	
8th	33rd	Red	Talon	
8th	35th	Yellow	Panther	
8th	36th	White	Flying Fiend	
16th	24th	Yellow	Tiger	
16th	29th	White	Fighting Cock	
16th	43rd	Red	Wasp	
18th	6th	Red	Skull	
18th	19th	Yellow	Fighting Cock	
18th	78th	Blue *	Bushmaster	
20th	55th	Blue **	Winged Sword and Arrow	Later changed to white
20th	77th	Red	Playing Cards	
20th	79th	Yellow	Machine Gun	
35th	18th	Blue	Unknown	
35th	20th	Red	Unknown	
35th	21st	Yellow	Unknown	
23rd Comp	1st	Red	Unknown	

* Dark or royal blue

** Insignia blue



20th Pursuit Group's C.O. in flight.

(Parker Aviation Data Bank)

REFERENCES

1. Letter from John A. Ziemba to Thomas Barnett, 4-27-76. The conversion to electric starters may have been accomplished on the P-36Cs only.
2. "Sash" Seversky would frequently fly up to Selfridge from Farmingdale, L.I. He helped the pilots of the 1st in their transition to the new, hotter pursuit. His personal airplane was fitted with a more powerful Twin Wasp, which he had hoped to get for all the P-35s. It flew rings around the other ships of the Group.
3. Korges test flew the first YP-38 at Wright. His friend P.L.G. "Plug" Moore was killed testing the YP-39.
4. Letter from Col. Lewis M. Sanders, USAF, to Thomas Barnett, 5-17-76.
5. *Ibid.*
6. *Ibid.*
7. *Ibid.*
8. *Ibid.*
9. *Ibid.*
10. *Ibid.*
11. *Ibid.*
12. *Ibid.*
13. Letter from Gen. Robt. S. Israel, Jr., USAF, to Thomas Barnett, June 24, 1967.
14. *Ibid.*
15. *Air Force Magazine*, Feb. 1977, p. 90.
16. This is an approximation of the notation on the Aircraft History Card because the name is unreadable.
17. Letter from Col. Lewis M. Sanders to Thomas Barnett, 7-12-76.
18. This does not take into account P-36Gs which served very little time in the Air Corps.
19. Gordon W. Prange, *At Dawn We Slept*, McGraw-Hill, p. 400.

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