Lieutenant Boyd D. "Buzz" Wagner flew this P-35A when he was assigned to the 17th Pursuit Squadron at Nichols Field during early 1941. Later, Wagner went on to become the first American ace of the Pacific war.





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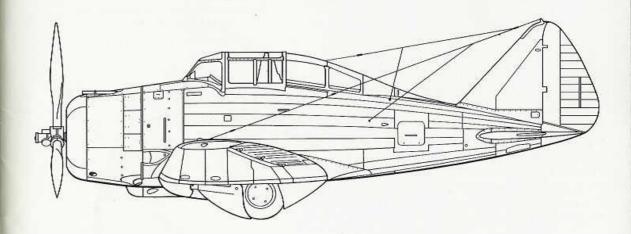


MINI Number 1 squadron/signal publications

P-35

Mini in action

By Larry Davis
Color by Don Greer
& Tom Tullis
Illustrated By Joe Sewell







A P-35A of the 34th Pursuit Squadron engages a Zero fighter during the initial Japanese attack on Del Carmen Field, The Philippines on 8 December 1941. Two pilots from the 34th were credited with kills during this engagement, Second Lieutenant Ben S. Brown and Lieutenant Stewart W. Robb.

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The P-35 was known to people at the Seversky factory as the "Farmingdale Flash." This Seversky fighter was assigned to the 27th Pursuit Squadron. (Bob Esposito)



Introduction

The Seversky P-35 was the first fighter aircraft from the design team of Alexander de Seversky and Alexander Kartveli, a pair of Russian immigrants that would be at the forefront of American military aviation through the years before and during the Second World War. Seversky was a Russian First World War Ace with thirteen victories. He defected to the United States in 1918, founding the Seversky Aviation Corporation in 1931. Kartveli immigrated to the U.S. in 1928 and joined Seversky as his Chief Engineer.

The P-35 was a direct development of the Seversky SEV-3 amphibian aircraft, a three place, all-metal, low-wing monoplane that was initially fitted with a pair of EDO Corporation floats and wheels. The SEV-3 was powered by a Wright J-6/R-975 nine cylinder radial engine offering 420 hp. The very sleek amphibious aircraft could attain speeds in excess of 190 mph. Seversky himself set a new World Speed Record in the SEV-3 on 9 October 1933 at 179.7 mph. The SEV-3 was years ahead of its time, as no other amphibious aircraft could attain such performance. In 1934, Seversky modified the SEV-3 amphibian for land-based operations only. The floats were removed and a pair of fixed main landing gear with wheel "spats" were installed. Seversky wanted his aircraft to be able to compete for one of the new military contracts being offered by the War Department.

The modified land plane, factory designation SEV-3XAR, won the military contract to become the Army Air Corps' first all-metal,

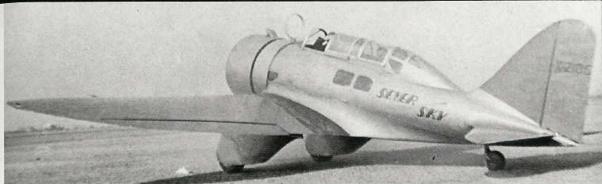
low-wing monoplane trainer aircraft. Competing at the Army Trainee Competition at Wright Field in 1935, the SEV-3XAR had a raised canopy that enclosed a second cockpit. Later, the engine used on production aircraft was changed to a Pratt & Whitney R-985-11 nine cylinder radial engine rated at 400 hp. The first production aircraft, designated the BT-8, was delivered during February of 1936. Seversky built a total of thirty BT-8s.

Army pilots loved the little trainer in all respects save one, it was woefully under-powered - the direct result of an Army requirement that called for less than 400 hp in any trainer aircraft. The wing of the BT-8 was an elliptical-shaped design that was built in three sections. This stressed-skin wing had no dihedral and used Frise-type ailerons, but without any trailing edge flaps. This same wing design would be the basis for the new pursuit design from Seversky. The under-powered BT-8 was replaced by the North American BT-9, fore-runner of the T-6 Texan, and the BT-8s were phased out by 1930.

Seversky's answer to the call for a more powerful machine was to modify the SEV-S design to accept the new Wright R-1820 nine cylinder Cyclone engine rated at 750 hp. Seversky re-installed the floats on the SEV-3M and set a new World Speed Record at 230.4 mph in September of 1935. With the BT-8 contract in hand, plus fame from the record holding aircraft, Seversky was ready to compete in the new Pursuit Plane Competition held in 1935 at Wright Field. Seversky built a second aircraft just for the competition. Basically a land-based version of the SEV-3M, the new SEV-2XP had a fixed main land-

The SEV-3M was the basis for all future Seversky fighter/racer designs. Major Alexander de Seversky set a World Speed Record at 179.7 mph in the all-Gold SEV-3M amphibian aircraft. (Jack Binder)





(Above) The SEV-3XAR was later modified with a fixed, wheeled landing gear in a streamlined housing as a land based aircraft. The SEV-3XAR competed and won the Army Trainer Aircraft Competition, resulting in an order for Seversky BT-8 trainers. (Jack Binder)

(Below) The Army Air Corps' first BT-8 trainer was assigned to Wright Field during 1936. The BT-8 was the first modern, low-wing, monoplane trainer in Army Air Corps service. The aircraft shared a similar fuselage design and wing plan form with the later P-35 design. The Army Air Corps bought thirty BT-8 trainees. They were delivered in the standard AAC training colors of Light Blue 23 (FS 35109) fuselage and Yellow 4 (FS 13432) wings and tall. (Jack Binder)



The SEV-1XP was the prototype P-35 aircraft. The SEV-1XP had rearward retracting main landing gear and was powered by a Wright R-1820 Cyclone engine driving a two-blade propeller. The prototype had a large engine cowling and rounded vertical tail/rudder assembly. (AFM)





The SEV-1XP in front of Hanger One at the Seversky plant in Farmingdale, Long Island during 1936. Seversky unveiled his SEV-1XP pursuit prototype in August of 1935, ready to compete at the Wright Field Pursuit Plane Competition with a modified rudder. (Vincent Berinati)

ing gear, was powered by the Wright Cyclone engine, and carried a crew of two, a pilot and rear gunner. Luckily for the Seversky team, the SEV-2XP was damaged enroute to the 1935 Pursuit Competition and Army postponed the competition. It was a good thing too. For the Curtiss Aircraft Company unveiled their competition - the Model 75 Hawk. The Hawk would have flown rings around the Seversky entry, probably resulting in a lost contract and failure of the fledgling company.

Seversky returned the SEV-2XP to the factory at Farmingdale, Long island in June of 1935 for a major redesign based on his knowledge of the competition. Retaining the wing and engine of the SEV-2XP, the Seversky -Kartveli team modified the fuselage with a single-place cockpit with a razorback spine - a feature that would figure in later designs from the company like the P-47 Thunderbolt. The fixed landing gear was replaced by a rearward retracting system, with fairings completely enclosing the landing gear and wheels. Armament was a single .30 caliber machine gun and single .50 caliber machine gun, both mounted in the upper engine cowl, firing through the propeller arc. The (now designated) SEV-1XP returned to Weight Field in August of 1935 ready to compete against the Curtiss design. This time the Seversky design

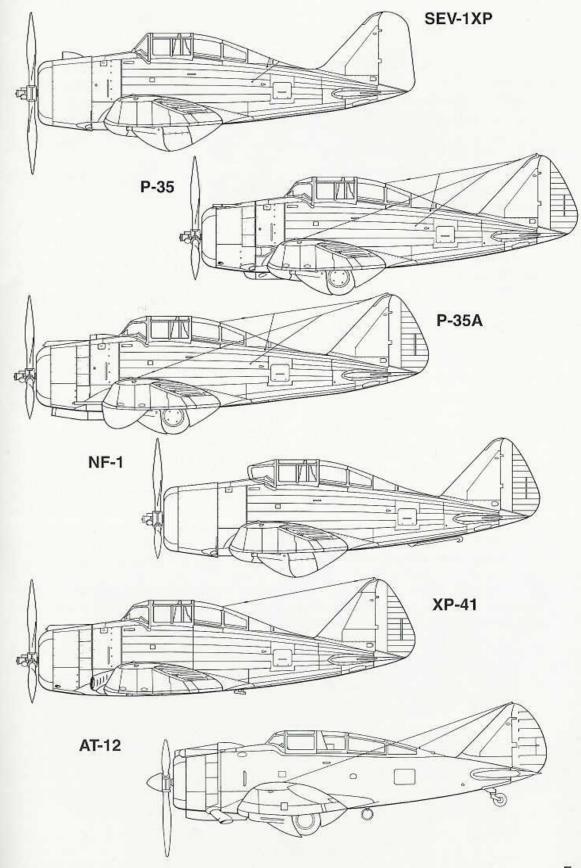
prevailed, but the Curtiss team objected. A third competition was set for 1936.

One change that Army called for in the 1936 competition was installation of the Pratt & Whitney R-1830 Wasp engine rated at 850 hp. Both Curtiss and Seversky were to compete using the new power plant. Neither aircraft could meet the design guarantees using the more powerful Wright Cyclone engine. And the Pratt & Whitney Wasp never developed its advertised horsepower. Thus neither competing aircraft actually met the Army design requirements of a speed in excess of 300 mph. The SEV-1XP reached 289 mph on Cyclone power, but only 277 mph using the Wasp engine. But Army was adamant on the use of the Wasp, due to previous maintenance problems with the Wright Cyclone. Seversky lost the contract bid, but not for a lack of performance. Curtiss simply outbid the Seversky firm by over \$5,000.00 per aircraft. Army Air Corps awarded a contact to Curtiss to build two hundred aircraft under the designation P-36. Seversky was also awarded a contact as their design had performed on an equal par with the P-36, but only for a total of seventyseven aircraft. The Army designated the Seversky design as the P-35. There was no "official" nickname such as was the case with the Curtiss Hawk. But it was commonly referred to as the "Farmingdale Flash."

The competition to the SEV-1XP for the AAC Pursuit contract was the Curtiss Hawk 75. Curtiss won the contract by outbidding Seversky and went on to produce the fighter as the P-36 for the Army and the H-75 for export. (AFM)



Development



P-35

On 16 June 1936, the Army Air Corps awarded a contract to Seversky Aircraft Corporation to build seventy-seven production versions of the SEV-1XP prototype under the designation P-35. The P-35 differed from the prototype in many ways. It was powered by the Army-required 950 hp Pratt & Whitney R-1830-9 Wasp air-cooled, radial engine with a reduced diameter engine cowling. The carburetor intake was moved from the upper portion of the cowling to a position on the side of the fuselage at the wing/fuselage juncture. The fully enclosed landing gear fairings were replaced by partial fairings to save weight. It was found through trial and error, mostly error, that these landing gear fairings also decreased damage to the aircraft during a "wheels-up" landing. The shotgun-shell starting system of the prototype was replaced with an all-electric starter unit. Additionally, the bulged canopy of the prototype was redesigned with a pointed windscreen to improve the aircraft's overall aerodynamics. The armament remained the same, a single .30 caliber machine gun and a single .50 caliber machine gun mounted in the upper engine cowling firing through the propeller arc.

The wing and tail surfaces remained the same as on the prototype. One new innovation was use of a so-called "wet wing". The entire inner wing structure was coated with a sealant to become one large fuel tank. The

"wet wing"; however, was a maintenance nightmare due to the early sealants that were used. The sealants dried out rather quickly, resulting in multiple fuel leaks. This meant that the wing had to be disassembled at regular intervals so the mechanics could reseal the inner wing — a costly and time-consuming project. The other common maintenance complaint was the complicated system of universal joints that operated the landing gear system and flaps.

The first production P-35 (serial 36-354) was delivered to Wright Field during mid-1937. Performance of the P-35 was much greater than the previous fighter types like the Boeing P-12 and P-26, and equal to the Curtiss P-36 Hawk. The Pratt & Whitney R-1830-9 offered enough power to give the P-35 a top speed of 282 mph in combat configuration, about 50 mph faster than the P-26, but 10 mph slower than the P-36. The P-36, slightly lighter than the P-35 and with over 100 additional horsepower, also had a greater rate of climb than the P-35. But the "wet wing" gave the P-35 a range in excess of 1,000 miles, over 400 miles more than the P-36.

The remainder of the production run of seventy-five P-35s (serials 36-355 through 36-429) were delivered to the 1st Pursuit Group at Selfridge Field between July of 1937 and August of 1938. The P-35s were the first fighter aircraft to be delivered in a natural metal finish. The P-35s equipped all three squadrons of the 1st Pursuit Group; the 17th,

Major Alexander De Seversky at the controls of the first P-35 production aircraft (serial 36-354). It differed from the SEV-1XP in having a Pratt & Whitney R-1830 Wasp power plant, fully enclosed landing gear, and a reshaped vertical tail assembly. (Seversky)



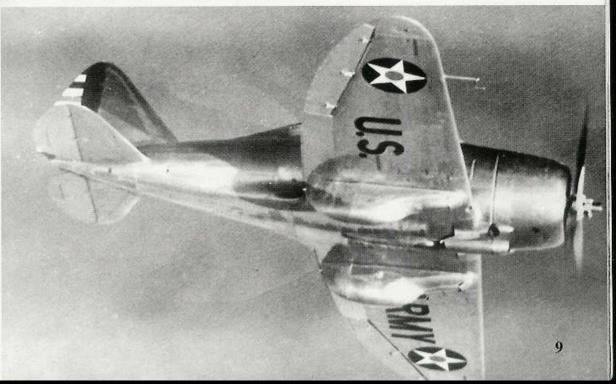


The first production P-35 on the ramp at Wright Field during 1936. Rolled out in 1936, the P-35 had a top speed of 281 mph and a range of over 1,000 miles. The Army Air Corps bought seventy-seven P-35s. (AFM)

27th, and 94th Pursuit Squadrons. Ironically, all three squadrons were also equipped with P-36 Hawks, and it was not uncommon for the pilots to train on P-35s in the morning and P-36s in the afternoon. Following the Air Corps expansion program in 1940, the P-35s were split up and served in all six of the early expanded pursuit groups — the 1st, 31st, 49th, 50th, 52nd, and 58th PGs. At this very early stage of the Second World War, it was not uncommon for a pursuit group to have four or five different aircraft types, from P-26s to P-

40s, in its inventory. Although obsolete even before the war broke out, the P-35s continued to serve in the United States until the end of the war. Most served in fighter or maintenance school squadrons. The last Army Air Force P-35 was scrapped in April of 1946. The final P-35 built on the original contract (36-430), was modified with an inward, fully retractable landing gear, and designated as the XP-41. It would lead to both the P-43 Lancer and the P-47 Thunderbolt.

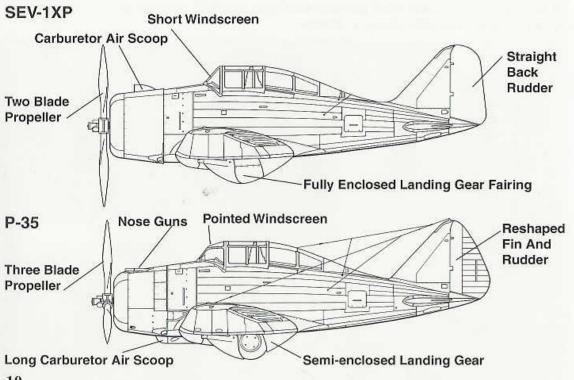
The prototype P-35 had fully enclosed landing gear and retained the distinctive planform with its elliptical wings and Frise ailerons. This wing plan was used on all previous and subsequent Seversky/Republic designs. (AFM)

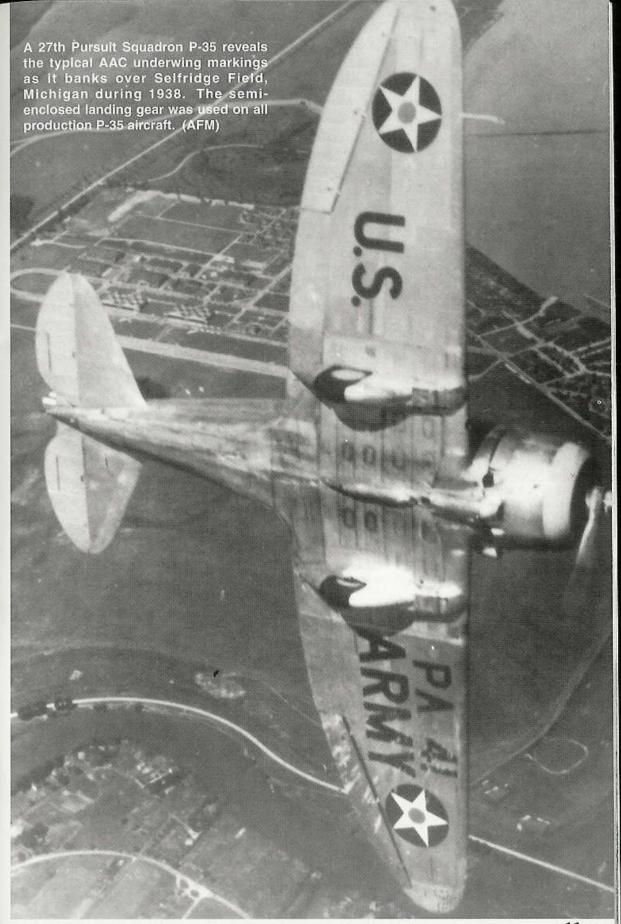




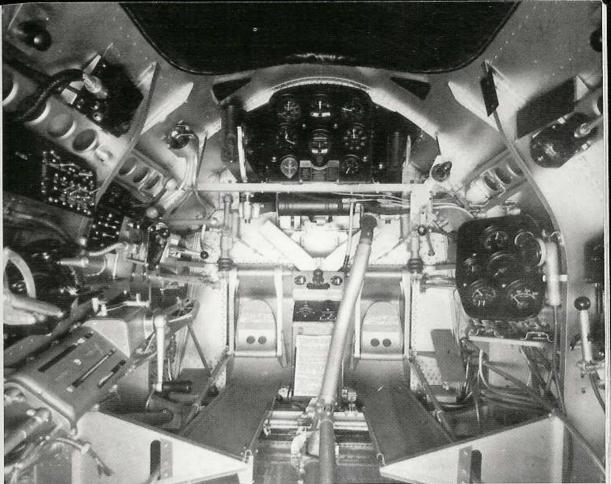
The first P-35s to enter squadron service went to the 1st Pursuit Group based at Selfridge Field, Michigan. This P-35 was assigned to the 27th Pursuit Squadron and was flown by the squadron commander. It carries a Yellow nose and command stripes on the rear fuselage. The aircraft also had the production semi-enclosed landing gear housings in place of the fully enclosed housing found on the first production aircraft. (AFM)

Aircraft Development









The spacious cockpit of the P-35 was painted Aluminum, with Black instrument panels, radio boxes, electrical switch boxes. The charging handles for the two nose machine guns were on either side of the main instrument panel. (AFM)

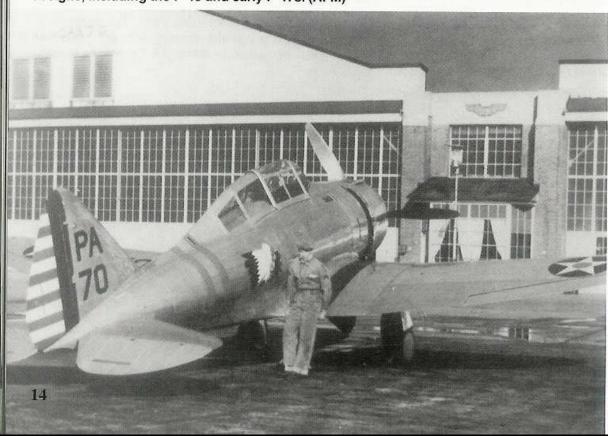
P-35s of the 1st Pursuit Group line the ramp at Selfridge Field during 1938. The entire P-35 production run was delivered to the 1st PG, save for a few test aircraft, between 1936 and 1938. The P-35 was the first production aircraft delivered to Army Air Corps in Natural Metal finish. (Ed Bollen Collection)





A P-35 of the 27th Pursuit Squadron in flight over Michigan during 1938. The P-35's long range was due to its sealed inner wing which turned the wing into a large fuel tank. This design feature was known as a "wet wing." Although it gave the P-35 exceptional range, the early sealants were prone to dry out and cause leaks, which made the "wet wing" a maintenance nightmare. (AFM)

The commander of the 94th Pursuit Squadron flew this P-35 during 1937. The aircraft carries two Red commanders bands around the rear fuselage and has the cowling ring in Red. The razorback spine on the P-35 would become a feature found on other Seversky/Republic designs, including the P-43 and early P-47s. (AFM)



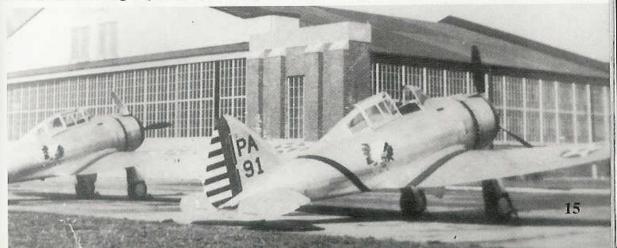


(Above) The third squadron equipped with the P-35 was the 17th Pursuit Squadron White Owls, also based at Selfridge Field. This P-35 is undergoing engine maintenance on the grass field at Eglin Field during war games held in 1939. The cowling ring on 17th PS aircraft was painted White. (AFM)

(Below) Colonel Henry Clagett, commanded the 1st Pursuit Group during 1938. He flew this P-35 which had the colors of all three squadrons painted on the cowling ring and the Group insignia on the fuselage side. The tail code PA-1, was the standard AAC code where P stood for Pursuit, A for the 1st Group. The individual numbers 1 through 10 were for the Headquarters Squadron, 11-39 were assigned to the 17th Squadron, 40-49 for the 27th Squadron and 70-99 for the 94th PS. (AFM)



A pair of P-35s of the 94th PS on the ramp at Selfridge Field during 1938. The single forward angled Red stripe on the aircraft in the foreground identifies it as being assigned to the leader of C Flight. (SGT Alex Singer)

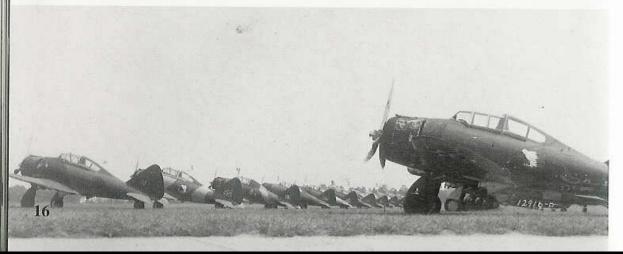




The narrow landing gear of the P-35 led to many ground accidents such as this nose over of a 17th Pursuit Squadron P-35. The aircraft was of sturdy construction and repairs were usually quickly made and the aircraft returned to flyable condition. (AFM)



(Above/Below) A line-up of aircraft from the 27th and 94th Pursuit Squadrons during the 1940s war games exercises held at Pope Field in North Carolina. The camouflage paint was applied in water-based shades of Greens and Browns, although the aircraft retained their Natural Metal undersurfaces. No two aircraft had the same camouflage pattern and all were hand painted with a brush. (USAF)





With the expansion of the Army Air Corps ordered by Congress during 1940, the 1st Pursuit Group transferred its remaining P-35s to form the basis for five new units. This P-35 was assigned to the A Flight Leader of the 39th Pursuit Squadron, 31st Pursuit Group at Selfridge during 1940. The nose ring and fuselage stripe were in Yellow with a thin Black outline. (AFM)

During 1941, the Army Air Force adopted camouflage paint for all tactical aircraft, with the uppersurfaces being painted in Olive Drab 22 (FS 30118), with Neutral Grey 32 (FS 36173) undersurfaces. This P-35 was assigned to the ground school squadron at Chanute Field. (Colonel Fred Bamberger)



P-35s were assigned many non-combat roles during the early years of the Second World War. Declared obsolete, this P-35 was assigned to one of the ground school squadrons at Chanute Field during 1943. The lettering under the cockpit states "Class 26 - NOT TO BE FLOWN!" (Peter Bowers)

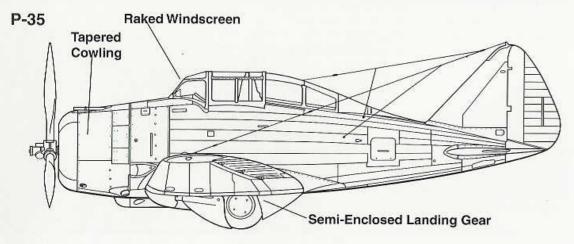
NF-1

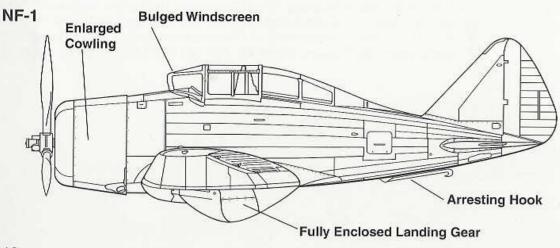
The NF-1 was a Seversky proposal to build a version of the SEV-1XP/P-35 for use by the U.S. Navy. It had the straight, no dihedral wing, Wright Cyclone engine and the larger diameter cowl of the SEV-1XP prototype. A carrier arresting hook was added under the rear fuselage, and small bomb racks were mounted under the wings. The NF-1 also had the bulged windscreen that was used on the prototype and the Seversky AP-1. Later, the Navy ordered the unit removed and replaced with a standard P-35 windscreen.

The NF-1 prototype was delivered to Naval Air Station Anacostia, Virginia, on 24 September 1937, where it began a series of flight tests and carrier qualification trials. Flight testing revealed that the NF-1 had too high a landing speed for safe carrier operations, additionally it was found to be only some seven miles per hour faster than the F3F. As a result, the Seversky NF-1 was cancelled in favor of the Brewster F2A Buffalo and Grumman F4F Wildcat designs. The aircraft never actually received a Navy Bureau Number, retaining its civil registration during its test period. The aircraft was returned to Seversky and it was later scrapped.

Company records indicate that the NF-1 was expected to have a top speed of 267 mph at 15,200 feet, a service ceiling of 30,700 feet and a initial rate of climb of 2,600 feet per minute. The aircraft weighed 4,020 pounds empty and 5,231 pounds fully loaded. Armament remained the standard one .30 caliber and one .50 caliber machine gun mounted in the cowling and firing through the propeller arc.

Fuselage Development







(Above/Below) The Seversky NF-1 (Navy Fighter-One) was a Seversky attempt to land a Navy fighter contract during 1937. The aircraft was basically a P-35 airframe modified for naval use. The NF-1 had a 950 hp Wright R-1820 Cyclone engine, and was fitted with arresting gear under the rear fuselage for aircraft carrier qualification trials. The NF-1 was sent to NAS Anacostia, Virginia where tests revealed that its landing speed was too fast for safe carrier operations. As a result, the project was cancelled in favor of the Brewster F2A Buffalo and Grumman F4F Wildcat. The NF-1 never carried Navy markings and flew its entire test program in civil markings. (Vincent Berinati)



EP-1/P-35A EP-1

The P-35A was the result of a program to modernize the Royal Swedish Air Force in the late 1930s. The RSAF was equipped with Gloster Gladiator biplane fighters as their front line air defense aircraft in 1939. As the threat of war grew in Europe the situation forced the RSAF to look for a more modern type, since the Gladiator was no match for the Messerschmitt Bf-109. With no modern aircraft of their own manufacture, the Swedish government went to other sources, including the United States. One of the aircraft types that the RSAF was interested in was the Seversky P-35.

Sweden invited several airplane manufactures to that country to show off their latest designs. Major Seversky personally took charge of the Seversky effort to bring the contract back to the U.S. He brought a new aircraft that combined the P-35 with some of the better ideas that had been gleaned from the extensive racing schedule the company had been involved in, and added the additional Swedish requirements.

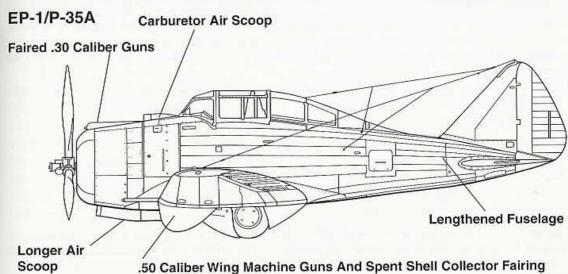
The test aircraft was designated as the Seversky EP-1-68, EP standing for Export Pursuit. It was basically the Seversky AP-7 racing aircraft which had a lengthened fuselage compared to the P-35 and was equipped with a 1,200 hp Pratt & Whitney R-1830-45 engine. With Seversky himself flying the demonstration flights, the RSAF were impressed enough to buy the package. On 29 June 1939, the Swedish government awarded a contract to Seversky to build fifteen Seversky EP-1-106 fighters. Another order on 11 October 1939 sent forty-five more EP-1-106s to Sweden. A third order for a further sixty EP-1-106s came on 1 January 1940. But one thing was very different about these last sixty EP-1-106s. They were not Seversky EP-

The first EP-1-106 (European Pursuit) parked in front of Hanger One of the (now) Republic Aircraft plant at Farmingdale, Long Island during July of 1940 complete with Swedish Air Force markings. Built to compete for a Swedish Air Force fighter contract, the EP-1-106 was basically a P-35 with the additional armament of two underwing .50 caliber machine guns (not yet installed) and two cowl-mounted .30 caliber guns. (Frank Strnab)



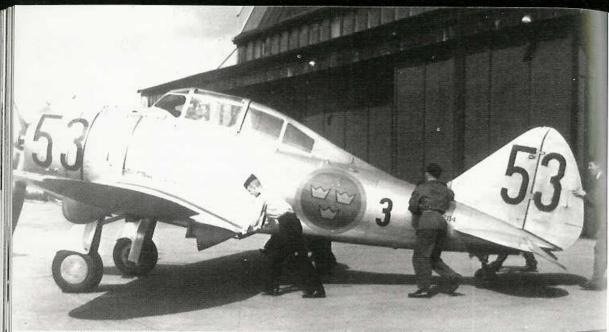
Fuselage Development





A pair of Royal Swedish Air Force (RSAF) EP-1-106s at Barkarby, near Stockholm during the Fall of 1940. The RSAF ordered one hundred twenty EP-1-106s, RSAF designation J-9, but received only sixty. The aircraft in the foreground does not have its two .50 caliber wing guns installed. (AFM)





A RSAF J-9 fighter on the ramp at Malmstatt during the Fall of 1940. The Republic fighters were sent by ship to Trondhiem, Norway; then by truck to Malmstatt where they were reassembled and test flown. After being tested they were ferried to their home base at Barkarby. (AFM)

1-106s — they were Republic EP-1-106s! On 13 October 1939, the Seversky stockholders bought out Major Seversky's holdings in the company and changed the name to the Republic Aviation Corporation.

Other changes involved in the Swedish order were for heavier armament and different instrumentation, placards and radio equip-

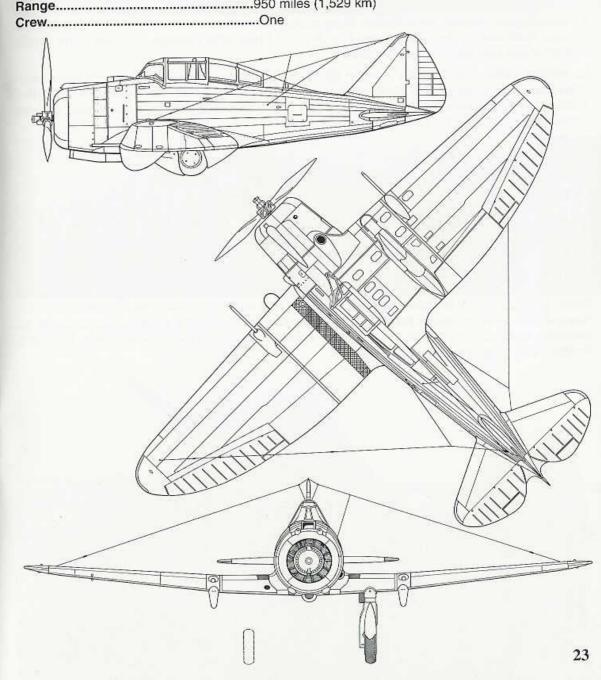
ment. The instruments and cockpit placards were all printed in Swedish, The radio equipment was of a Swedish manufacture, and again all instructions and frequencies were printed in Swedish. The armament was the biggest change. The standard P-35 armament of a single .30 caliber machine gun and a single .50 caliber machine gun in the upper cowl

A pair of RSAF J-9s assigned to No. 8 Fighter Wing fly over a lake near their home base of Barkarby, located on the outskirts of Stockholm. The RSAF J-9s intercepted many Allied bomber aircraft that were battle damaged over Germany and forced to land in Sweden. (AFM)



Specification

Seversky EP-106/P-35A	
Wingspan	001 14007
Length	
Height	
Empty Weight	
Maximum Weight	6,118 pounds (2,775 kg)
Powerplant	
	R-1830-45 air-cooled engine
Armament	Two .30 caliber machine guns
	and two .50 caliber machine guns
Speed	
Service Ceiling	
Bongo	950 miles (1 529 km)





A camouflaged J-9 from No 8 Fighter Wing during 1941. One of the differences between the J-9 and P-35 was in the nose guns. The J-9 was fitted with fairings over the guns, while USAAC P-35s had exposed guns. (AFM)

No 8 Fighter Wing J-9s line the ramp at Barkarby during 1941. The Swedish J-9s were camouflaged Dark Green, with Pale Blue undersurfaces and had the numbers in White. Although much more capable than AAC P-35s, the J-9s would not have faired well against Luftwaffe Bf 109s and Fw 190s. (AFM)



RSAF ground crewmen check the tail of a J-9 at Barkarby during the Summer of 1941. Several J-9s were modified for the reconnaissance mission with a pair of aerial cameras mounted behind the pilot in the fuselage spine. To aid in rapid identification, the wing insignia was greatly oversized. (AFM)







The last sixty EP-1-106s slated for delivery to Sweden were impressed into U.S. service during 1940. Forty-five of the aircraft, AAF designation P-35A, were shipped to The Philippines in early 1941 and assigned to the 17th Pursuit Squadron. 17th PS ground crew personnel push one of the new J-9/P-35As into a hanger at Nichols Field to begin the job of re-assembling the fighter. (AFM)

was changed to a matched pair of .30 caliber machine guns in the cowl and a pair of .50 caliber machine guns mounted in the wings But the P-35 wing was so thin that a fairing had to be added under the guns to catch the spent cartridge casings.

Deliveries of the EP-1-106s began in early 1940, with the Swedish designation of J-9. They were sent by ship to Trondhiem, Norway, then loaded on trains for the trip into Sweden where they were reassembled. By mid-1940 the first sixty aircraft were in place, assigned to No 8 Fighter Wing based at Barkarby, to defend the capitol of Stockholm. Some of the first sixty aircraft had to be trucked in from Finland after Germany invaded Norway. The second batch of sixty EP-1-106 aircraft never made the trip.

Defending Stockholm, the J-9s flew

throughout the war, intercepting many of the "invading" B-17s and B-24s that were forced to flee to Sweden following battle damage over Germany. The Swedish J-9s remained in front line service until 1947 as fighter aircraft before being relegated to other missions. Some were initially fitted with aerial cameras for a photo reconnaissance mission, but most were relegated to the advanced trainer role. Several were still in use in the mid-1950s, including two that were regularly flown by Swedish Air Staff officers on inspection tours.

P-35A

With ominous signs that the United States was definitely going to be drawn into the ongoing war in Europe, the U.S, War Department sought, and was granted, an

A line-up of 17th Pursuit Squadron P-35As at Nichols Field during the Summer of 1941. The aircraft on the extreme right has the underwing bulges that held empty .50 caliber cartridge cases, while the others in the line have the guns but not the bulges. (AFM)





The first U.S. Ace of the Second World War was Lieutenant Boyd D. "Buzz" Wagner, who flew this P-35A when he commanded the 17th Pursuit Squadron at Nichols Field during early 1941. The large window on the starboard fuselage was for passenger use. (AFM)

immediate expansion program, especially within the Air Corps. Units were created almost as fast as the numbers could be written down. Much faster than the Army could equip them with a front line aircraft. The 1st PG was the sole P-35 unit in the AAC, and its inventory included the entire production run of

P-35 aircraft. When the 1st PG was modernized with Lockheed P-38s, its P-35 assets were transferred to five other pursuit groups. As more modern aircraft like the P-38, P-39, and P-40 were still unavailable in quantity, these new units would use P-35s and other obsolete types as the basis for their "combat

Lieutenant Wagner's 17th PS P-35A on the ramp at Nichols Field during the Summer of 1941. The P-35As assigned to the 17th PS remained in Natural Metal finish with White cowl rings until they were camouflaged along with other AAF aircraft in the Fall of 1941. (AFM)





A pair of P-35As of the 17th PS at Nichols Field in the late Summer 1941. Both aircraft have had the underwing shell casing collector fairings removed. (AFM)

capability". What was needed was more aircraft — YESTERDAY!

One of the options exercised by the U.S. War Department was the impression of combat aircraft already on the assembly lines and purchased by other nations. One of those types was the last sixty aircraft on the Swedish EP-1-106 contact with Republic. The EP-1-106s were seized and immediately forty-five of them were rushed to the Philippine Islands as a stopgap defensive measure. There were no changes in any of the aircraft. They arrived in the Philippines exactly as if they were still

going to Sweden. They even had Swedish national insignia. The Army Air Corps designated these sixty aircraft as P-35As. They were much faster than the standard P-35, since they had the more powerful 1,050 hp Pratt & Whitney R-1830-45 Wasp engines. Even with the added weight of the two .50 caliber wing guns and their ammunition, the P-35A had a top speed of 310 mph. One of the things that wasn't needed or wanted, was the inclusion of the Swedish instruments and cockpit placards, making the P-35As difficult to fly and maintain.

Lieutenant G. H. Armstrong climbs into the cockpit of "Buzz" Wagner's P-35A at Iba Field in the Spring of 1941. The extended oil cooler intake scoop was common to the P-35A/EP-1-106, as were the wing .50 caliber machine guns and shell casing collector bulges. (AFM)



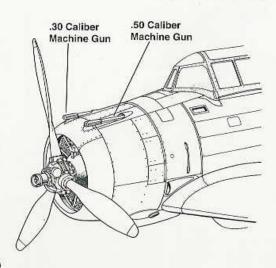


In the Fall of 1941 many of the P-35As were camouflaged in Olive Drab, then transferred to the 34th Pursuit Squadron as the 17th PS transitioned to the Curtiss P-40 Warhawks. This 34th PS P-35A shows what happens when tropical moisture gets under fresh paint and the aircraft is flown -- the paint just peels off! (AFM)

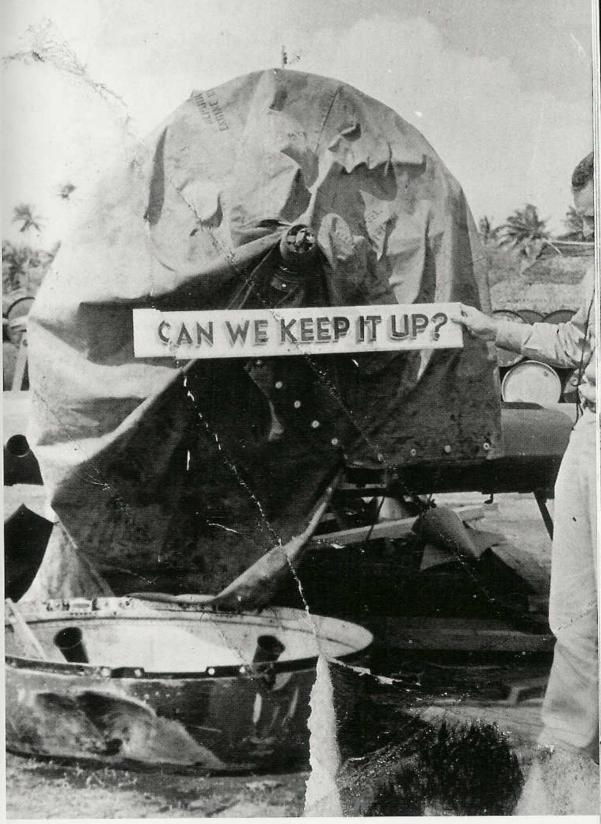
Problems aside, it was the P-35As, along with the P-40Bs and P-40Es, and the Philippine Air Force P-26s, that defended the islands against Japanese attack in the dark days of December 1941. Initially, the fortyfive P-35As that arrived in the Philippines were assigned to all the squadrons within the 24th Pursuit Group at Clark Air Base. But when P-40Bs and P-40Es became available, the P-35As were relegated to the pilots in the 17th and 34th Pursuit Squadrons.

in the 1st PG at Selfridge AB, was transferred to the Philippines in December of 1940. They were assigned to the 4th Composite Group but they had no aircraft! They flew well-worn P-26s and P-35s until newer types could be brought in. In mid-1941 the 17th PS was reequipped with the Curtiss P-40E. But the P-35As were not scrapped. Some were retained by the 17th PS. But the majority of them equipped the new 34th PS based at Del Carmen Field, south of Clark Air Base. They The 17th PS, one of the original P-35 units were on line on 8 December 1941 when the

Armament Development







This wrecked P-35A was used for propaganda purposes. It was one of the aircraft destroyed by an accurate Japanese air attack against Nichols Field. By 11 December 1941, only eight P-35As remained in service. (AFM)



A pair of 17th PS P-35s at Nichols Field during 1941. It is generally assumed that no regular production P-35s went to the Philippines, but neither of these aircraft have the .50 caliber wing guns and their cowl guns are unfaired which are standard fittings on P-35As. (AFM)

first wave of Japanese aircraft attacked. Even though equipped with the faster and heavier armed P-35A, they were easy prey for the much faster Japanese fighters. Twelve P-35As were destroyed on the Del Carmen camp without ever turning a propeller blade. During these early combats, two pilots, Lieutenants Ben S. Brown and Stewart W. Robb, were credited with downing Japanese Zeros. Robb's aircraft was badly damaged during this engagement and he was forced to make a crash landing back at Del Carmen.

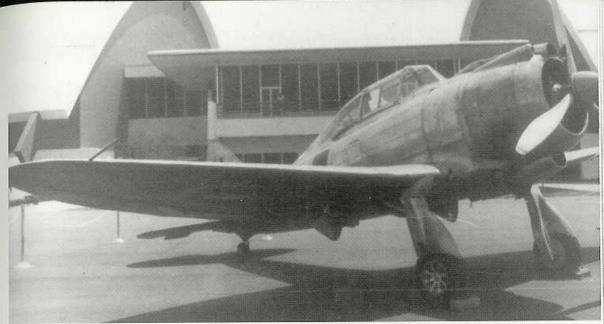
On 10 December, sixteen P-35As took off to

attack Japanese targets, but eight aborted the mission due to engine problems, one of which suffered an engine failure on the way back and the pilot bailed out. The remaining aircraft attacked the invasion fleet and the commander of the 34th PS, Lieutenant Sam Morrett, was killed when his P-35A came apart in the explosion of a Japanese minesweeper. Upon returning to Del Carman, the P-35As were caught on the ground by Japanese fighters and twelve were destroyed and another six damaged.

The remaining eight P-35As fought on. On

This P-35A was assigned to the 10th Air Base Group ground school at Chanute Field in March of 1941. The aircraft is used strictly for ground school and carries the usual sign of a Class 26 aircraft - "NOT TO BE FLOWN". (Jack Binder)





One EP-1-106/P-35A survived the war and is now on display at the Air Force Museum in Dayton, Ohio. It was displayed outside for a period shortly after its delivery from the Royal Swedish Air Force in 1971. (AFM)

24 December, six attacked the Japanese landings at Lamon Bay, but inflicted only minor damage. Finally, the surviving aircraft were ordered to Bataan Field on 6 January 1942. Several of the P-35As, which resembled a Japanese Zero at first glance, were shot down by anxious U.S. gunners coming in to Bataan Field. On 11 January, the two P-35As that remained flyable were ordered out to Del Monte. These two aircraft were among the last four U.S. fighters to fly combat in the Philippines. The last P-3A5 flew a rescue mission to the island of Negros to pick up two Americans that were surrounded by invading Japanese troops. Lieutenant John Brownewell landed his P-35A near the Americans and squeezed them into the aft fuselage, returning them safely to Del Monte Field.

On 29 April, Captain Ramon Zosa of the Philippine Air Force flew one of the remaining P-35As armed with two 100 pound bombs to attack the invasion force off Mocajalar Bay. This type of attack was repeated on 2 May and 3 May. After the 3 May attack, Zosa landed the P-35A at a small airstrip where it was hidden. This was the last flight of a P-35A in the Philippines.

By the end of the fighting in the Philippines, the 4th Composite Group had racked up an impressive tally in spite of flying obsolete aircraft types against the best the Japanese had. They shot down about sixty Japanese aircraft, adding another thirty destroyed on the ground. Although the entire P-35A force was destroyed, only a few were actually shot down by Japanese fighters. Most were either destroyed on the ground or shot down by "friendly fire.".

Of the fifteen P-35As not sent to the Philippines, most were redesignated as RP-35A and assigned to training units around the United States. Previous reports of twelve P-35As being exported to Ecuador have been found to be untrue. The Eucadorian Air Force purchased four ex-racers and operated these aircraft for a short period. It is known that an attempt was made to arm these aircraft and use them as fighters, but it is unclear if the attempt was successful.

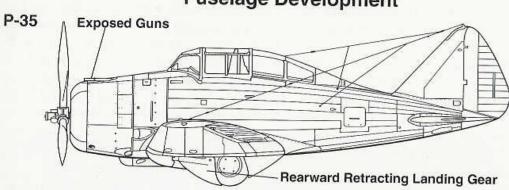
XP-41

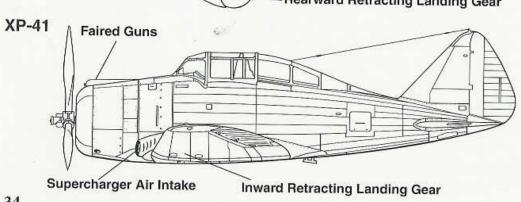
The last P-35 off the production line (serial 36-430) was modified with a 1,200 hp Pratt & Whitney R-1830-19 engine and two stage supercharger in place of the 850 hp R-1830-9 engine. The supercharger was mounted in a ventral position under the fuselage with the intake carried in the port wing root. The landing gear was also modified with the rearward retracting landing gear of the P-35 being replaced by an inward retracting gear. The canopy was also changed being lowered and more aerodynamic.

Designated the XP-41, the aircraft made its maiden flight during March of 1939 and demonstrated a top speed of 323 mph.

The last production P-35 was modified with a new engine, inward retracting landing gear and a turbosupercharger as the XP-41. It was the first AAF aircraft to exceed 300 mph in level flight. (AFM)







AT-12 Guardsman

The Republic AT-12 two-seat trainer aircraft originally was built as a two seat version of the P-35 for export. The AT-12 was a development of the Seversky X-BT, the so-called "Convoy Fighter" because of its long range. The AT-12, company designation SEV-2PA, was almost a foot longer than a P-35 to accommodate a rear gunners compartment, and it had a five foot greater wingspan. The armament specified was varied and could be up to five machine guns; two .30 caliber guns in the upper cowling, two .50 caliber guns in the wings (similar to the EP-1-106/P-35A), and a single flexible .30 caliber gun in the rear gunners compartment. The aircraft was configured with underwing bomb racks which could hold up to 1,300 pounds of bombs.

The SEV- 2PA was powered by a 1,000 hp Wright Cyclone R-1820 engine, which gave it a top speed of almost 300 mph; however, the production version, the AT-12, had a Pratt &

Whitney R-1830-45 engine, which offered similar performance to that of the P-35A.

When the Swedish Government ordered the one hundred twenty EP-1-106 fighters, they also ordered fifty-two of the SEV 2PA-204A "Convoy Fighters." These aircraft were given the Swedish designation of B-6. The B-6s were to be used as both light bombers and as advanced trainers.

But the U.S. War Department also intercepted this order on 10 October 1940. Only two of the B-6s ever made it to Sweden, where they flew throughout the war. These aircraft, serialed 7203 and 7204, were taken on charge by the Swedish Air Force after their delivery in the Summer of 1940. Aircraft 7203 was assigned to F6 at Karlsbord and carried a camouflage scheme and the individual aircraft number 16. The aircraft was lost in an accident on 20 September 1940 in which the pilot was killed and the observer was seriously injured. Aircraft 7204 was assigned to F8 at Barkarby as a hack for the headquarters air staff. The aircraft carried several different camouflage schemes during its service in Sweden until 1950 when it was stripped to

The SEV X-BT Convoy Fighter was the first Seversky two-seat design based on the P-35. It had a 550 hp Pratt & Whitney R-1340 radial engine for power, and had removable outer wing panels which could extend the wing span. (AFM)





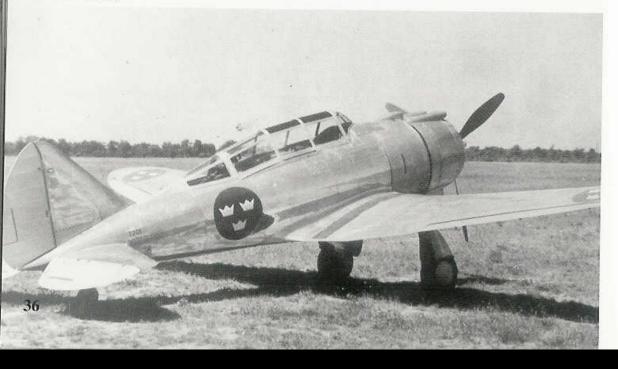
The Swedish government ordered fifty-two of the SEV 2PA-204A "Convoy Fighters" when they placed their order for EP-1-106 fighters. Only two had arrived in Sweden when the U.S. War Department impressed the remainder of the production run. Known as the B6 in Swedish service the aircraft were armed with a .30 caliber machine gun in the rear cockpit. (AFM)

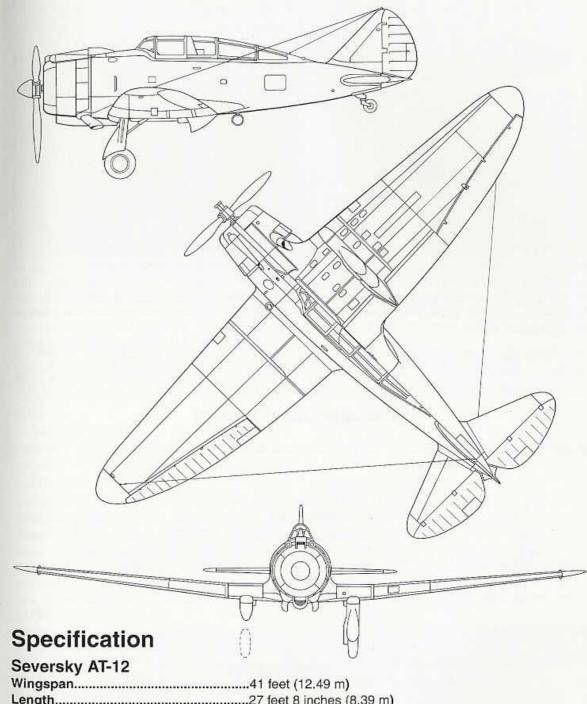
Natural Metal, which it retained for the remainder of its service life. The aircraft was used by the air force commander during a tour of Swedish bases in 1951 as part of the ser-

vice's 25th anniversary. The aircraft was officially retired on 29 May 1953 after it was ground looped.

The remaining fifty aircraft were impressed

One of the two SEV 2PA-204A "Convoy Fighters" that arrived in Sweden during the Summer of 1940. The rear gun position was completely enclosed, with the gun being stowed until needed. (AFM)





Seversky AT-12			
Wingspan	41 feet (12.49 m)		
Length	27 feet 8 inches (8.39 m)		
Height	9 feet 9 inches (2.97 m)		
	4,700 pounds (2,131 kg)		
Maximum Weight	7,000 pounds (3,175 kg)		
	One 1,050hp Pratt & Whitney		
	R-1830-45 air-cooled engine		
Armament	Two .30 caliber machine guns		
Speed	285 mph (458.6 kph)		
Service Ceiling	31,400 feet (9,571 m)		
Range	900 miles (1,448km)		
	77/43		

Crew.....Two

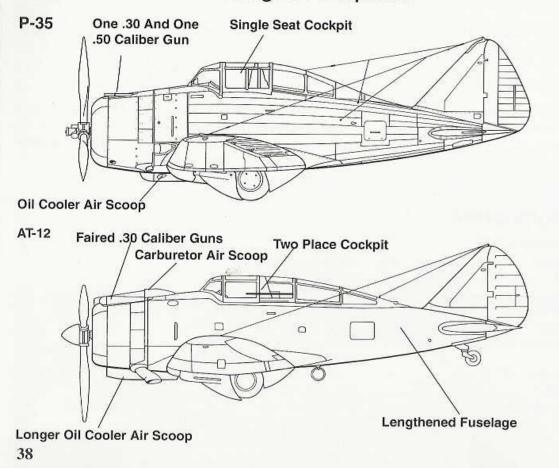


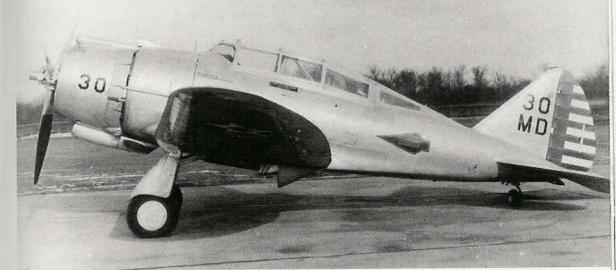
Intended as a light bomber with the RSAF, the 2PA-204A/B6 was used as a staff transport during the war. This B6 carries a Dappled Green camouflage on the fuselage, with solid Green wing uppersurfaces and Pale Blue undersurfaces. This was just one of the camouflage schemes the aircraft carried until 1950. After that date it was operated in overall Natural Metal. (AFM)

into Army Air Corps service and designated the AT-12 Guardsman. Although designed and built as a light bomber, the AT-12s were used

strictly as advanced and gunnery trainers in Army Air Force service, and they were rapidly replaced in both missions by the T-6 Texan.

Fuselage Development





The AT-12 was a production two-seat trainer using a lengthened P-35A fuselage, extended wing span, and powered by a 1,000 hp Pratt & Whitney R-1830 Wasp engine. Originally ordered for the swedish Air Force, the U.S. War Department impressed fifty into Army Air Corps service in October of 1940. (USAF)

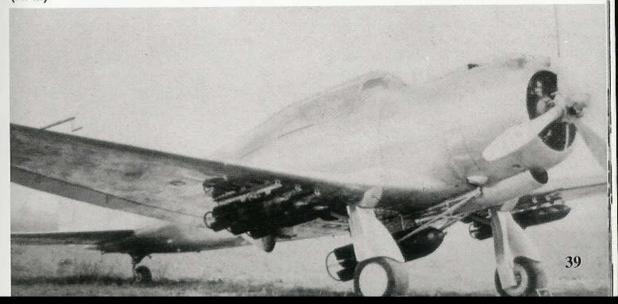
Several were used by stateside unit commanders as base flight hacks, flying officers to various command conferences throughout the war.

Several variations of the SEV-2PA were built and sold to other nations, including one member of the Axis Powers. Japan bought twenty SEV 2PA-B3 aircraft during 1937 for use as a long range escort fighter in China. Designated A8V-1 by the Japanese Navy, they flew combat in China until 1941, when they were withdrawn in favor of A6M Zero fight-

ers. They were identical to other 2PA types except for having Japanese instrumentation and placards. Delivered in Natural Metal, most were later camouflaged in Green and Brown with Light Gray undersurfaces. Following their withdrawal from combat, several A8V-Is were obtained by the Asahi Press for use as high speed news couriers.

At least three SEV-2PAs were sold to the Russian Air Force, one as an amphibious aircraft with floats, the other two as standard land plane "Convoy Fighters". The Soviets

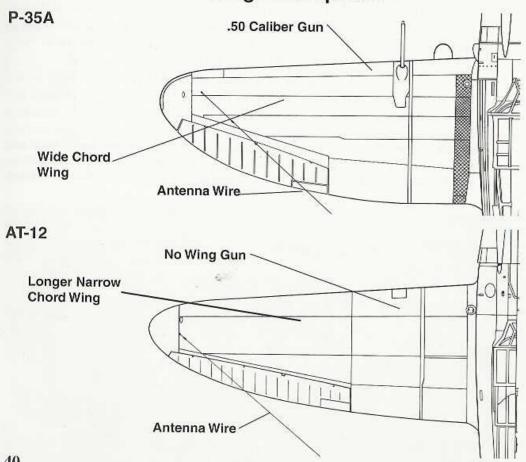
The AT-12 was capable of carrying 1,300 pounds of ordnance on a centerline bomb rack and six underwing bomb pylons. The AT-12s were used strictly as advanced and gunnery trainers in the Army Air Force although they had been designed as attack and dive bombers. (AFM)

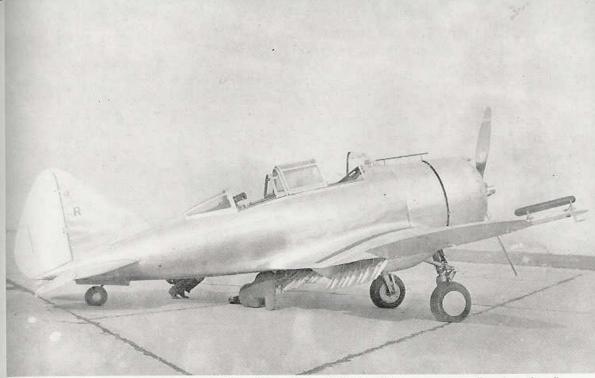




In 1937 the Japanese government bought twenty SEV 2PA-B3 "Convoy Fighters" for use as long range escort fighters in China. They were designated A8V-1 and were withdrawn from combat prior to the attack on Pearl Harbor. They were then flown by Asahi Press. (Bunrindo)

Wing Development





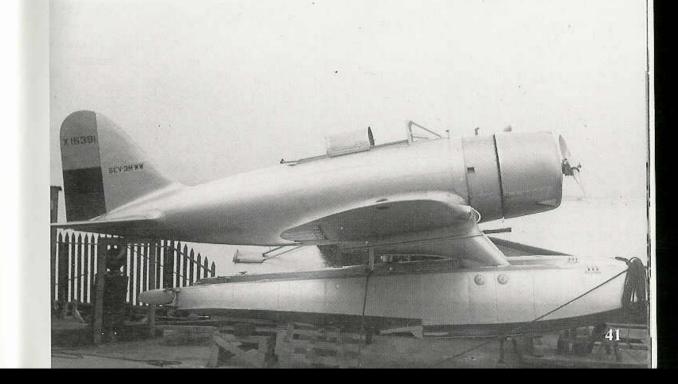
Several countries were interested in the two-seat design for use as a dive bomber/long range fighter. This SEV 2PA-L was sold to Russia and ended up fighting in the Spanish Civil War. The aircraft is parked on the ramp while ground crewmen check the flaps. (Vincent Berinati)

took delivery of these aircraft during 1938. Seversky also sold the production rights to the Soviets, but it is unknown if any of the type river patrol aircraft. These two seat aircraft

were ever actually built in Russia.

Columbia received at least six SEV-3MWW

Seversky built six SEV 3M-WW amphibious aircraft for use by the Columbian Air Force in 1936. The 3M-WW used a P-35 wing but the fuselage was three feet longer than a standard P-35. (Vincent Berinati)





The only surviving AT-12 is this example that was restored by the Planes Of Fame Museum. During the restoration the aircraft was painted in 17th Pursuit Squadron markings although no AT-12s were ever assigned to front line or combat squadrons. (Nick Williams)

used a P-35 wing, but had a three foot longer "in service" with the Planes Of Fame Museum fuselage.

at Chino Airport, California.

Only three of the SEV-2PA types are known to have survived the war, one being B6 7204. Two USAAF AT-12s survive and one remains

From this angle the AT-12 is hard to distinguish from a P-35. The fuselage lines and wing planform were a direct link from the P-35 to the AT-12 to the P-43, to the P-47. Each one got just a little bit -- bigger! (Nick Williams)



Racers

While developing the P-35 series, Seversky pursued a highly successful racing program. A number of aircraft were built for demonstration and competition, the first of which was the S-1 (Special-Number 1). This aircraft, flown by Frank Sinclair, placed fourth in the 1937 Bendix Trophy race, while the S-2, flown by Frank Fuller, took first place.

Another racer was the DS, or Doolittle Special, which was built under a contract from Shell Oil Company for Major James Doolittle.

This aircraft had the glazing to the rear of the cockpit replaced with a metal fairing.

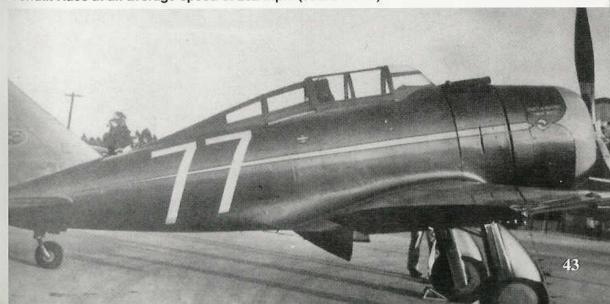
The Seversky AP-1 (Army Pursuit One) was mainly used for experimental and demonstration work. It went through many different configurations.

The AP-7 was flown by Jackie Cochran in a number of races. It also went through a number of different configurations. Originally fitted with rearward retracting landing gear, it was later modified with inward retracting gear during 1929. During 1938, she set a new women's world speed record and won the 1938 Bendix race.



Frank Fuller flew the SEV-S2 racer during the 1937 and 1938 Bendix Trophy races. He placed first in the 1937 race and second in the 1938 event. The aircraft featured a cut down canopy and windscreen to reduce drag. (Vincent Berinati)

Frank Fuller flew this colorful SEV-2S racer in the 1939 Bendix Trophy Race. Freshly painted in Metallic Green with Yellow trim, Fuller's Number 77 racer was his original Number 23 aircraft modified with a 1,200 hp Pratt & Whitney Cyclone engine. Fuller won the 1939 Bendix Race at an average speed of 282 mph. (Jack Binder)



Rizal S

The SEV-DS (Doolittle Special) was flown by Major James Doolittle for the Shell Oil Company testing 100 octane aviation fuel. It differed from military P-35s in that it was powered by a Wright R-1820 engine, had a cut down canopy and a flat wing. (Vincent Berinati)

Jackie Cochran flew the Seversky AP-7 prototype to a new 2,000 km Speed Record at 332 mph. The AP-7 led directly to the XP-41 fighter prototype with inward retracting landing gear. (NASM)





P-43 Lancer

The P-43 evolved from the Seversky AP-4 fighter prototype which was built alongside the XP-41, but powered by a 1,200 hp Pratt & Whitney R-1830-25 radial engine with a turbosupercharger. The aircraft was entered in the 1939 fighter competition and Seversky won a contract for thirteen aircraft under the designation YP-43.

The YP-43 was a much heavier aircraft than the P-35 and XP-41. But its performance was far better than either of its forerunners. The aircraft demonstrated a top speed of 351 mph and a rate of climb of 2,850 feet per minute. The turbosupercharger gave the YP-43 a superior high altitude performance and it had a service ceiling of 38,000 feet.

Armament was two .30 caliber machine guns in the cowling and two .50 caliber machine guns mounted in the wings. The landing gear was similar to the XP-41 and retracted inward into bays on the underside of the wing. The turbosupercharger was mounted in the rear fuselage and was connected to the engine via a long tube that ran along the underside of the fuselage.

On 13 September 1939, the Army issued a contract for eighty production versions of an improved variant of the AP-4 under the designation P-44; however, intelligence and combat reports coming in from Europe indicated that the P-44 would be unsuited for European combat operation. At this point, Alexander Kartveli presented the Army Air Force with the design for the XP-47, which was immediately accepted and all contracts for P-44s were cancelled. To keep the Republic production lines open until the P-47 was ready, the AAF issued a contract for fifty-four production versions of the YP-43 aircraft under the designation P-43 Lancer with the first deliveries taking place in May of 1941.

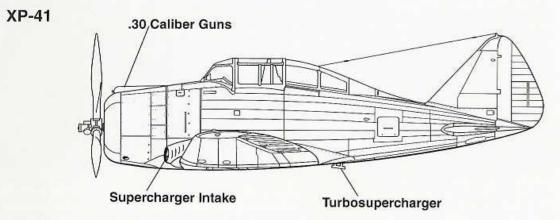
These aircraft were followed by another contract for eighty aircraft (the P-44 contract was modified to P-43s). The Army ordered additional P-43s for use in the Lend-Lease program and a total of 272 were to be built before the aircraft was phased out in favor of the first P-47s.

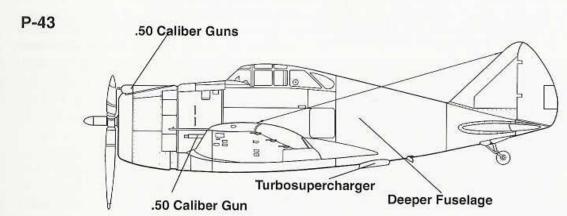
The P-43 was built in several variants. Following the P-43 on the production line was the P-43A, which differed from the P-43 in having a revised armament of four .50 caliber machine guns and a 1,200 hp Pratt & Whitney

The YP-43 Lancer was a direct development from the Seversky XP-41/AP-4 prototypes. The aircraft took part in the 1939 Army fighter competition and Seversky/Republic was awarded a contract for thirteen aircraft.



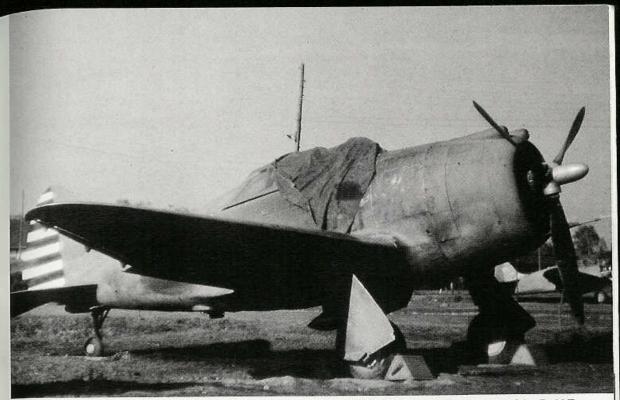
Fuselage Development





The XP-43 reveals its P-35 ancestry with the cowl armament, wings, and tail assembly. Thanks to the turbosupercharger, the aircraft also has the massive fuselage that led to the ultimate in the basic Seversky design -- the P-47 Thunderbolt. (Bob Esposito)





In China the P-43A equipped the 4th Pursuit Group where they served along side P-40Es. The Chinese Air Force used the aircraft in the high altitude bomber escort role. The P-43s remained in service until they were replaced by P-51 Mustangs during 1945. (Bob McKay) R-1830-49/57 engine. the rear fuselage. These were redesignated as

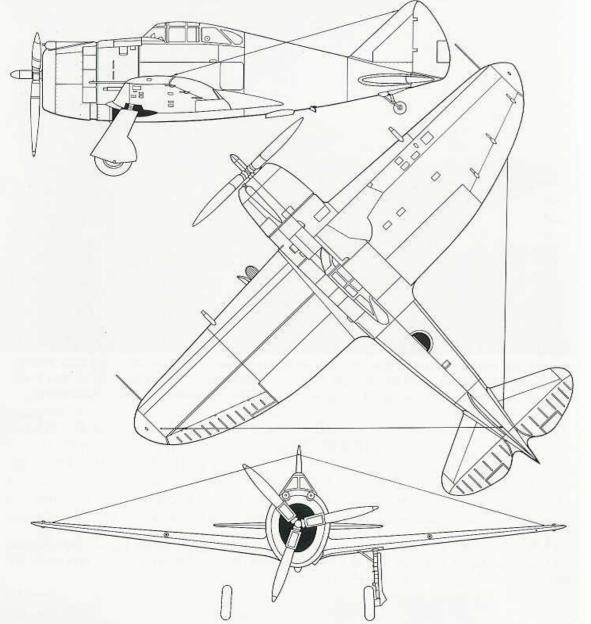
These were followed by the P-43A-1 which had self-sealing fuel tanks and some had a further revision to the armament, moving the four guns to the wings. A number of P-43A and P-43A-1 aircraft were modified for the photo reconnaissance role with cameras mounted in

the rear fuselage. These were redesignated as P-43B-RE (fourteen aircraft), P-43C-RE (two aircraft) and P-43D-RE (six aircraft).

The Army had rejected the P-43 for combat use in Europe and released the aircraft for Lend-Lease. The Chinese Air Force was scheduled to receive a total of 180 P-43A/A-1

This RP-43D of No 1 Photo Reconnaissance Unit, Royal Australian Air Force crash landed at at Coomalie Creek in December of 1942 The RAAF received eight RP-43Ds and assigned them serials A56-1 through A56-8. (AFM)





Specification

Republic	(Seversky)	D_//2/A_1
nepublic	Seversky)	P-43A-1

Republic (Seversky) P-4	3A-1
Wingspan	36 feet (10.97 m)
Length	
Height	
Empty Weight	
	8,440 pounds (3,846 kg)
Powerplant	One 1,200 hp Pratt & Whitney
	R-1830-57 air-cooled engine
Armament	Four .50 caliber machine guns
Speed	
	36,000 feet (10,972.8 m)
	1,450 miles (2,333.4 km)
Crew	
48	



This P-43A (40-2939) of the 122nd Reconnaissance Squadron nosed over on landing at Winston Salem, North Carolina during maneuvers held in 1942. The White band around the rear fuselage was a special marking applied to the aircraft for the war games.

aircraft. In reality, 125 were allocated under Lend-Lease and only fifty-one were actually delivered to China. In China these aircraft were issued to the 4th Pursuit Group of the Chinese Air Force where they served alongside P-40Es. Because of their turbosuperchargers, the 4th PG assigned the P-43s to the bomber escort role. The 4th PG continued to operate the P-43 until they were replaced by P-51 Mustangs during 1945. Combat reports from China indicated that the greatest problems with the P-43s was in their leaking fuel tanks and faulty brakes. One report stated that the gas tank problem was serious and that they had no sealing compound in China to effect repairs. The majority of leaks occured in the area of the whell wells. This problem limited the P-43s effectiveness. Since there was no replacement immediately available, however, they remained in service. A number of P-43s were also used as high altitude reconnaissance

aircraft by the Chinese.

At least two P-43s were passed to the American Volunteer Group (AVG) and were in turn passed to the 23rd Fighter Group. No record exists as to the fate of these aircraft.

At least eight reconnaissance configured P-43Ds (A56-1 to A56-8) were transferred to the Royal Australian Air Force (RAAF) where they served with No 1 Photo Reconnaissance Unit. One aircraft (A56-5) was lost in a crash landing at Coomalie Creed in December of 1942.

P-43s did serve with some of the newly forming USAAF fighter units until more modern aircraft became available. P-43s served with the 1st Pursuit Group, 55th Pursuit Group and some reconnaissance versions served with the 122nd Reconnaissance Squadron,



A number of P-43As were used by the 55th Pursuit Group. Initially, these aircraft were flown in Natural Metal, later they were camouflaged with Olive Drab uppersurfaces over Neutral Gray undersurfaces. These aircraft carried the Group code, 55P, on the fin in Black with the individual aircraft number on the nose. (via Keith Melville)

A pair of P-43As of the 38th Pursuit Squadron, 55th Pursuit Group.at Hamilton Field, California during 1941. This Group, which included the 37th PS and 54th PS, was used in the air defense role along the west coast, serving at several bases including: Portland and McChord Field, Washington. Later the Group converted to Lockheed P-38s and delpoyed to Europe in 1942. (via Keith Melville)

