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Alexander de Seversky





Russian Aircraft Designer & Founder of Republic Aviation

By Stephen Sherman, Oct. 2003. Updated April 16, 2012.

Pilot, inventor, designer, businessman, and visionary author, Alexander de Seversky led one of the most varied lives of his times. Born a Russian nobleman, he served in the Czarist naval air service, survived the Civil War, emigrated to the United States, started a great aircraft company, lost control of it, and ended up being best-remembered for writing *Victory Through Air Power*.

Alexander Nikolaivich Prokofiev de Seversky was born June 7, 1894, in Tiflis, Russia (now Georgia).

When Alexander entered the Imperial Russian Naval Academy at age 14, he already knew how to fly, as his father had been one of the first Russians to own a plane. He graduated in 1914 with an engineering degree and was serving at sea as a lieutenant in the Imperial Navy of Russia when World War I began.

Requesting a transfer to aviation, he was reassigned to the Baltic Fleet as a pilot in 1915. He attacked a German destroyer in the Gulf of Riga but was shot down before he could drop his bombs. When his plane crashed, the bombs exploded, badly wounding de Seversky and killing his observer. He survived, but lost one leg below the knee. Equipped with a wooden leg, he was deemed unfit for combat duty, and made a spectacular unauthorized flight at an air show to demonstrate that he could still fly. He was immediately arrested for his efforts. Only after the Czar's personal intervention in July 1916, did Seversky return to combat duty. He shot down his first enemy plane three days later and claimed 3 more victories in August. In February 1917, he assumed command of the 2nd Naval Fighter Detachment until an accident with a horse drawn wagon broke his good leg. After serving as an advisor in Moscow, de Seversky returned to combat duty in the Gulf of Riga and received confirmation for 2 more of his victories. On 14 October, he was forced down in enemy territory but made it back to the safety of

his own lines. In all, he flew 57 sorties and shot down 6 German aircraft (some sources say 13) to become Russia's top naval ace.

In March 1918, de Seversky arrived in the United States to serve as assistant naval attaché at the Russian Embassy. When the Bolsheviks took over, he decided that it was too dangerous for him to return to Russia and made the United States his home.

He went to work for the War Department as an aeronautical engineer and test pilot, and advised Billy Mitchell on his famous bombing tests. Over the next few years, Seversky filed 364 patent claims, among them the first gyroscopically stabilized bombsight, which he developed with Sperry Gyroscope Company in 1923. He also had a hand in inventing in-flight refueling.

Seversky formed the Seversky Aero Corporation in 1923, making aircraft parts and instruments. That same year, he married the attractive socialite Evelyn Oliphant. He became a U.S. citizen in 1927 and gained a major's commission in the US Army Air Corps Reserve. Like many other ventures, his small aviation company did not survive the stock market crash of 1929. He bounced back and in February 1931, with the backing of millionaire Edward Moore and other investors, he formed the new Seversky Aircraft Corporation, his patents the only assets. Seversky Aircraft set up its offices at 570 Lexington Avenue, New York City in April; de Seversky and chief engineer Michael Gregor began work on an all-metal, stressed skin amphibious monoplane, the SEV-3. Among the emigré Russian engineers who joined his team was Alexander Kartveli, who designed the P-47 Thunderbolt.

SEV-3

The company's publicity and sales documents identified the plane as a "Sport Amphibian," an executive aircraft with possible military applications. It was a 3 seater with retractable wheels and hydraulically controlled floats that could be adjusted to the best angle for take-off or level flight. (An "amphibian" aircraft was equipped with float pontoons for water landings and wheels for ground use.) Its beautiful elliptical wing design was a staple of Seversky and (later) Republic airplanes, and could be seen in the P-47. As Seversky owned no manufacturing facilities, he arranged with Edo Aircraft Corporation of College Point, Long Island to build the SEV-3. It seemed an ideal arrangement, as Edo was a prime supplier of metal floats, but construction lagged for two years.

Powered by a 350 horsepower Wright R-975-ET engine, the SEV-3 made its initial flight in June 1933. Shortly they outfitted it with the more powerful (420 HP) Wright J-6-9E, and with this engine, set a world speed record for amphibians of 180 MPH,on October 9, 1933. Two years later, on September 15, 1935, the SEV-3 set another world speed record for piston-engine amphibious airplanes that remains unbroken, flying at a speed just over 230 miles per hour.

Meanwhile Major de Seversky had moved his company's operation to Farmingdale, Long Island and had flown to Wright Field, trying to sell the SEV-3 to the Army as a trainer. The Army was emphatically not interested in an amphibian, so it was back to the

drawing boards for Seversky and his Russians. By removing the floats and adding spats to the landing gear, they came up with the SEV-3XAR. Originally powered by a Wright R-975 radial with 950 HP. The SEV-3XAR was entered in a USAAC competition for a flight trainer, and the Army ordered thirty examples of a derivative, the BT-8, the Army's first monoplane basic trainer. Unfortunately, USAAC regulations required that the engine of a trainer must be limited to 400 HP, and so the BT-8 was retro-fitted with a Pratt & Whitney R-985-11 radial with the lower power rating. As a result, the aircraft was seriously underpowered and dangerous to inexperienced pilots, and was quickly replaced by the North American "BT-9", which evolved into the famous "AT-6 Texan" trainer.

P-35

In 1935, the Seversky company produced an experimental fighter, the SEV-2XD, powered by an 850 hp Wright R-1820 radial driving a three-bladed propeller. The design used a low-mounted elliptical wing. The two crew members sat in tandem under a transparent cockpit hood, and the rear crew member was provided with a rear-facing gun. The SEV-2XD had a fixed undercarriage enclosed by large wheel pants. The designation was changed to SEV-2XP (P for "Pursuit") for the USAAC's May 1935 competition for a single-seat fighter.

The SEV-2XP was completed in the spring of 1935. But both competitors, the Curtiss Model 75 and the Northrop 3A, had retractable undercarriages. On June 18, 1935, the SEV-2XP was "badly damaged" on its way to the competition, which (conveniently?) gave Seversky enough time to modify the design. The airplane was taken back to Farmingdale and they hastily modified the SEV-2XP prototype; the two-seater became a one-seater, and a retractable undercarriage was fitted. The undercarriage wheels were partially faired and the wheels remained partially exposed when the legs retracted into the wing. The tail-wheel was retractable, and the single-seat cockpit was fully enclosed by a sliding canopy. A new 850 hp Wright R-1820-G5 Cyclone air-cooled radial engine was fitted. The company redesignated the aircraft as SEV-1XP. It carried two 30 caliber machine guns, synchronized to fire through the propeller arc.

The overhauled SEV-1XP arrived at Wright Field on August 15, 1935. The USAAC had postponed the fly-off until April of 1936, due to the crash of Northrop's entry. During the test flights at Wright Field, Severskys' entry never achieved the promised 300 MPH, despite an uprated engine and tail modifications. Its designation changed from SEV-1XP to SEV-7 to AP-1. Although the Seversky fighter never achieved 300 mph, it was judged by the best of the entries, and on June 16, 1936, Seversky was awarded a contract for 77 examples under the designation P-35.

The P-35 closely followed the SEV-7. The cantilever, low-mounted wing was entirely of metal, except for the fabric-covered control surfaces. The 850 hp Pratt & Whitney R-1830-9 radial engine was enclosed by a tight cowling. Armament was the American standard of the day, one 0.50-inch and one 0.30-inch machine gun, synchronized to fire through the propeller. The P-35 could make 282 mph at 10,000 feet and it cold reach 15,000 feet in just under 7 minutes. Its absolute ceiling was 30,600 feet. After some

testing at Wright Field revealed some instability, Seversky added several degrees of dihedral to the wing to improve stability.

The first delivery of a P-35 to the USAAC was in July 1937. Deliveries were exceedingly slow because of the Seversky company's inexperience with mass production, and it was not until the spring of 1938 that the First Pursuit Group received their first P-35s. The last P-35 of the original order was delivered in August 1938. After flying for a few months with the 1st Pursuit Group, the P-35s were redistributed among squadrons of the 31st, 49th, 50th, 53rd, and 58th Groups, pending the arrival of the P-36 fighters into service.

Republic Aviation

By September of 1938, the Seversky Aircraft Company was in bad financial condition again. And Paul Moore (Edward's brother and heir) bailed the company out, again. But this time at a price. Seversky, still the nominal President, found his budget cut, as the Board transferred more power to Wallace Kellett, Managing Director. Seversky left for Europe on a sales tour in the winter of 1938-39, while at home, the company slipped even farther out of his control. Some claim the Kellett was an unscrupulous manipulator, but the disagreements and personalities have faded with time. In any case, Major Seversky had never been able to make money designing and building airplanes and he was edged out of the compnay he had started fro that purpose. The company was reorganized and re-named as Republic Aviation Corporation on October 13, 1939, with W. Wallace Kellett becoming the new president. Some lawsuits dragged on, but Seversky was out.

Victory Through Air Power

He turned to writing and advising after his departure from the company that he founded. In 1942 he wrote a book alerting the nation to the need for better air power; entitled *Victory Through Air Power* it became a best seller. *Victory* first took the reader through a brief, and selective, history of the war to that point. Seversky asserted that airpower was the key to victory and that traditional forms of land and sea warfare had been eclipsed by the airplane. Seversky emphatically declared that war was undergoing a revolution and that America needed revolutionary responses. Unfortunately, the United States was not prepared for this challenge. HE argued that American fighter airplanes were inferior to those of other belligerents. They had not the speed, range, altitude capability, or armament of front-line enemy fighters. Yet press releases emanating from the Army Air Forces and the government pretended American airplanes were the best in the world. Seversky rejected such claims with disdain.

Walt Disney's cartoon feature *Victory Through Air Power* was unabashed wartime propaganda. Disney was fascinated with de Seversky strategic bombing ideas, and he hoped to win the support of America's military leaders with this 65-minute film. After a semicomic animated history of aviation, (including Alberto Santos-Dumont, Alexander de Seversky (himself), Billy Mitchell (himself), Charles Lindbergh, Orville Wright, Wilbur Wright, Sir John Alcock, and others) the film then describes Seversky's accomplishments, with the Major himself explaining his theories. The finale (in

animation) shows Seversky's hypothetical air force precisely bombing enemy factories and supply lines, thus destroying their ability to make war. It even earned an Academy Award nomination in 1943.

After the war, he was awarded the Medal of Merit by President Harry Truman. He also served as a special consultant to the chiefs of staff of the U.S. Air Force and received the Exceptional Service Medal in 1969. In 1952, he formed Seversky Electroatom Corporation, a company focused on protecting the United States from nuclear attack and on extracting radioactive particles from the air.

Seversky died on August 24, 1974.

Links:

- Rand McNally Encyclopedia of Military Aircraft, 1914-1980, by Enzo Angelucci, The Military Press, New York, 1983
- Joe Baugher's P-35 web article