Holiday Edition 2024

Corey J Beitler's

# "Distelfink Airlines"

An Online Aviation Newsletter


*Sikorsky/Lockheed Martin VH-92A Patriot*

*1988 Potpourri Press Wright Flyer Tin & Mug Set*

*Carousel 1 1/48 Scale Curtiss P-40B Warhawk*

*North American F-86A Sabre*

*Curtiss P-36A Hawk*

*2024 Holiday Letter From The Editor*

*The Sikorsky JRS-1 displayed at the National Air and Space Museum's Steven F. Udvar Hazy Center has the distinction of being the only aircraft in the national collection that was at Pearl Harbor when the Japanese attacked on December 7, 1941. The JRS-1 was sent out with others of its type to search for the Japanese fleet after the attack.*

## *FROM THE EDITOR'S DESK*

### *Sikorsky JRS-1, Curtiss P-36A Hawk, Curtiss P-40B Model, Wright Flyer Tin & Mug*

*Greetings Everyone:*

*As I have noted in numerous posts and these notes throughout the year, "Distelfink Airlines" has had an incredibly successful year and has reached a record number of readers worldwide. As a gift for the holiday season and as a thank you to all of you for reading the newsletter this year, I present the "Holiday" edition of "Distelfink Airlines and the last edition of the newsletter for 2024!*

*As December is the anniversary month of the Japanese Attack on Pearl Harbor, I decided to feature some content with a Pearl Harbor theme. The feature article "A Witness To History" tells the story of the Sikorsky JRS-1 that is preserved in the collection of the National Air and Space Museum. This unassuming airplane, which was used as a utility aircraft by Utility Squadron 1 (VJ-1) of the U.S. Navy during the late 1930s and early 1940s, is the only aircraft in the national collection that was at Pearl Harbor on December 7, 1941. In addition to being present during the attack and surviving it, this JRS-1 and several others were pressed into service as reconnaissance and search and rescue aircraft immediately following the attack. These were roles the JRS-1 was not designed for nor were its crews trained for. The feature article has the story of this JRS-1 and how it came to be in the National Air and Space Museum's collection. Several photos of the JRS-1 are also included in the article.*

*Continuing with the Pearl Harbor theme, the "Aircraft of Special Interest" section has a feature about the Curtiss P-36A Hawk. A predecessor to the iconic P-40 Warhawk from World War II, the P-36 was a transitional fighter for the U.S. Army Air Corps in the late 1930s and bridged the gap between the fabric-covered biplane fighters of the early 1930s and the modern metal monoplane fighters that would rule the skies during the Second World War. The P-36A was being phased out of service in the U.S. Army Air Corps by the time the Japanese attacked Pearl Harbor on December 7, 1941, but several were still on strength in reserve capacity on that day. A few of these P-36As did get airborne during the attack and tangled with Japanese aircraft. The P-36A featured in this section is on display in the Museum of the United States Air Force in Dayton, Ohio, and is painted in the markings of the aircraft flown by 2nd. Lt. Phillip Rasmussen on December 7, 1941.*

*The "Aircraft Models" also has a Pearl Harbor theme for this edition of the newsletter. The model featured is a replica of the Curtiss P-40B Warhawk flown by 2nd Lt. George Welch during the Pearl Harbor attack. This model is 1/48 scale and a product of the now-defunct Carousel 1 company. Known more for their models of Indianapolis 500 race cars and Chevrolet Corvettes, Carousel 1 also produced a small line of die-cast fighter aircraft models. The Carousel 1 P-40B is an excellent model and examples can still be purchased on the secondhand market for reasonable prices.*

*Finally, the "Aviation Memorabilia" section has a mug and tin that were sold in the National Air and Space Museum gift shop featuring a wonderful illustration of the Wright Flyer during its first flight at Kitty Hawk, North Carolina, in 1903. These items were made by Potpourri Press and were part of a series of mugs, tins, puzzles, and dishes called "Famous Flights" that were sold in the museum gift shop and featured aircraft such as the Wright Flyer, Lockheed SR-71 Blackbird, and the "Spirit of St. Louis".*

*Thank you for supporting "Distelfink Airlines" and my aviation photojournalism efforts throughout the year. Please continue to share the newsletter with anyone interested in reading it. Have a safe and wonderful holiday season!*

*Regards,*
*-Corey*

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# *What's Inside:*


***Aviation Sightings:***

**Sikorsky/Lockheed Martin VH-92A Patriot** — 4
*An example of the helicopter operated as the "Marine One" presidential helicopter fleet by Marine Helicopter Squadron One (HMX-1) of the U.S. Marine Corps.*

***Aviation Memorabilia:***

**1988 Potpourri Press Wright Flyer Mug & Tin Set** — 6
*This set of items with beautiful artwork of the Wright Flyer making its historic first flight were part of a line of collectible tins and mugs sold in the gift shop of the National Air and Space Museum to commemorate "Famous Flights" .*

***Aircraft Models:***

**Carousel 1 1/48 Scale Curtiss P-40B Warhawk** — 8
*The die-cast model and collectible manufacturer's excellent model of an early variant of one of the most successful and versatile Allied fighter aircraft used in the early years of World War II.*

***Special Feature:***

**A Witness To History** — 12
*The Sikorsky JRS-1 in the collection of the National Air and Space Museum and on display in the museum's Steven F. Udvar-Hazy Center is the only aircraft in the national collection that was present at Pearl Harbor when the Japanese attacked on December 7, 1941.*

***Aircraft Of The National Air And Space Museum:***

**North American F-86A Sabre** — 24
*An example of the aircraft that was America's first swept-wing fighter jet and played a crucial role in the U.N. war effort in the air during the 1950-1953 Korean War.*

***Aircraft Of Special Interest:***

**Curtiss P-36A Hawk** — 28
*The American-designed and built fighter aircraft of the late 1930s and early 1940s that was the predecessor to the Curtiss P-40 Warhawk.*

***One Last Thing:***

**2024 Holiday Letter From The Editor** — 31
*A summary of this year's newsletter success and warm wishes for the holiday season.*


# Sikorsky/Lockheed Martin VH-92A Patriot


*A Sikorsky/Lockheed Martin VH-92A Patriot in flight near the Washington Dulles International Airport in Virginia. Marine Helicopter Squadron One (HMX-1) of the U.S. Marine Corps operates 23 examples of the VH-92A as the "Marine One" presidential helicopter fleet. In addition to the President of the United States and Vice President of the United States, the helicopters are used to transport members of the President's Cabinet and other high-ranking officials in the U.S. Government.*

The Sikorsky/Lockheed Martin VH-92A Patriot is an American twin-engine, four-blade, militarized variant of the civilian Sikorsky S-92 Superhawk helicopter. After years of developmental problems, the VH-92A Patriot recently became fully operational as the "Marine One" presidential helicopter fleet operated by Marine Helicopter Squadron One (HMX-1) of the U.S. Marine Corps.

The VH-92 was designed for the VXX, officially the Presidential Helicopter Replacement Program, that began in the early 2000s to replace the aging Sikorsky VH-3D Sea Kings and VH-60N White Hawks in service as the presidential helicopter fleet. Initially, the VH-71 Kestrel, designed by a consortium consisting of Agusta Westland (now Leonardo), Lockheed Martin, and Bell Helicopter, was chosen as the competition's winner in 2005. However, exploding cost overruns and engineering issues with the VH-71 Kestrel led the U.S. Navy to cancel the contract and restart the design competition in 2009. In 2014, it was announced Sikorsky VH-092 had won the design competition. A total of 23 VH-92As were ordered for production. In 2015, Lockheed Martin bought Sikorsky Aircraft.

The VH-92A is larger than the helicopters it replaced, with a length of 56 feet, a width of 17 feet, a height of 16 feet, and a rotor diameter of 56 feet. The helicopter can reach speeds up to 190 miles per hour, fly as high as 14,000 feet, and has a range of 540 nautical miles. The VH-92A can accommodate four crew members and up to 14 passengers. For its special mission role as a presidential transport helicopter, the VH-92A is fitted with an executive interior, advanced communications systems, and military support systems such as triple electrical power systems, redundant flight control systems, and countermeasures for defense against a missile attack. The VH-92A performed its first flight in 2017 and conducted takeoff and landing tests at the White House in September 2018. The VH-92A went through several years of development to solve design problems that caused fuel and exhaust leaks and issues with the encrypted communications systems. The VH-92A achieved initial operational capability (IOC) in 2021 and was named the "Patriot" in 2022. The VH-92A made its operational debut as "Marine One" on August 19, 2024, when President Joe Biden rode in one of the helicopters from the Chicago O'Hare International Airport to Soldier Field en route to the 2024 Democratic National Convention.


UNITED STATES OF AMERICA


UNITED STATES OF AMERICA

# 1988 Potpourri Press Wright Flyer Mug & Tin Set

*In 1988, the Smithsonian Institution partnered with Potpourri Press for a product line of tins, mugs, and puzzles commemorating "Famous Flights". This line of products was sold in the National Air and Space Museum gift shop and featured artwork of some of the most famous aircraft in the National Air and Space Museum collection. This mug and tin from the "Famous Flights" product line features artwork of the Wright Flyer soaring over Kitty Hawk on its first flight.*

Potpourri Press was a gift and stationery business founded in Greensboro, North Carolina, by David A. Grimes in 1967. Initially selling fondue kits, Grimes found that there were no fondue cookbooks available, so he commissioned his own. Potpourri Press soon became a book, gift, and stationery business. Starting off as a standalone retail store in Greensboro, the company quickly expanded its product lines, working with freelance artists to design and distribute gifts such as Christmas ornaments, mugs, tin boxes, and paper products. These products were sold in gift shops and department stores across the United States. One of the retail vendors Potpourri Press designed products for was the Smithsonian Institution, which ordered products from the company to sell in the gift shops at the National Air and Space Museum and National Museum of Natural History Museum.

In 1988, Potpourri Press collaborated with the Smithsonian Institution's National Air and Space Museum to design a series of products to sell in the museum gift shop. The product line was called "Famous Flights" and featured a tin and ceramic coffee mug featuring original artwork of a famous flight in aviation and spaceflight history. The aircraft chosen for the mugs and tins included the Wright Flyer, Charles Lindbergh's *Spirit of St. Louis,* the Grumman F-14A Tomcat fighter jet, the Lockheed SR-71 Blackbird spy plane, the Rutan Voyager, and the Space Shuttle *Columbia.* In addition to the mugs and tins, a pair of 200-piece jigsaw puzzles featuring original artwork with collectible tins were also sold. One of the puzzles featured a space scene with an astronaut spacewalking, the Saturn V rocket with the Apollo 11 space capsule launching into space, and the Space Shuttle *Columbia* in orbit. The second puzzle featured the same aircraft featured on the mugs and tins but added a Boeing B-17 Flying Fortress bomber from World War II in the artwork. The artwork on the puzzles was also featured on two small ceramic coin/key/trinket dishes sold in the National Air and Space Museum gift shop. Interestingly, the partnership with Potpourri Press was short-lived, and the "Famous Flights" series was the only product line produced by the company for the National Air and Space Museum.

This tin and mug are part of the "Famous Flights" series and feature the Wright Flyer, which made Orville and Wilbur Wright famous when it made the first sustained flight by a manned powered and heavier-than-air controlled aircraft on December 17th, 1903. The mug and tin feature a wonderful image of the Wright Flyer as it lifts off from the windy beach at Kitty Hawk, North Carolina, on that historic day.


*The tin included a notepad with paper that featured the same artwork of the Wright Flyer found on the tin and its name at the top. The paper was sized perfectly for writing small notes or messages on it. After the notepad was used, the empty tin could be repurposed for other uses in a home or office.*


*The mug was made of stoneware and had a capacity of 11 ounces. The front side of the mug featured artwork of the Wright Flyer, and the back featured a small description of the airplane. The mug came in a decorative box with the same artwork and description on its front and back sides.*

# Carousel 1 1/48 Scale Curtiss P-40B Warhawk


*Well-known for their 1/18 scale models of Chevrolet Corvettes and historical Indianapolis 500 race cars, die-cast model manufacturer Carousel 1 also produced a small series 1/48 scale of World War I and II fighter aircraft models. One of the models produced was this Curtiss P-40B Warhawk painted in the color scheme of the aircraft flown by 2nd Lt. George Welch on December 7, 1941, during the Japanese Attack on Pearl Harbor.*

Known as the Warhawk, Tomahawk, or Kittyhawk, depending on which nation's air arm it served with, the Curtiss P-40 was a successful and versatile fighter aircraft in the first years of World War II. When the war began, the Curtiss P-40 was one of the only effective fighter aircraft available to the Allies in large numbers. Although not one of the best fighter aircraft to have fought in World War II, the P-40 was a reliable and rugged design, capable of operating in all climates and with minimal ground support equipment. Over 13,000 P-40s were built from 1939 to the end of 1944, and the type remained in service until the war's end in 1945.

The design origins of the P-40 began in 1935 when Curtiss-Wright Corporation engineer Dr. Donovan R. Berlin designed the P-36 Hawk. The P-36 was a lightweight, agile, lightly-armed fighter powered by an air-cooled radial engine. Impressed with the P-36, the U.S. Army Air Corps awarded Curtiss-Wright a production contract for 210 aircraft in 1937. This production contract was the largest awarded by the U.S. Army Air Corps since World War I. During the late 1930s, the design of fighter aircraft matured rapidly. It was obvious that the P-36 was no match for the fighter aircraft designs emerging from European nations. Dr. Berlin set to work trying to improve the P-36's speed and high-altitude performance. Berlin redesigned the P-36's airframe to accommodate a turbo-supercharged Allison V-1710-11 inline, liquid-cooled engine. The new aircraft, the XP-37, was unpopular with test pilots. The turbo-supercharger was unreliable, and the cockpit, having been moved farther back in the fuselage to accommodate the larger engine, had restricted forward visibility.

In 1938, Curtiss-Wright and Dr. Berlin made another attempt to redesign the P-36 with a larger engine. This time, an Allison V-1710-19 engine was used, and the aircraft was designated the XP-40. First flying on October 14, 1938, the initial performance of the XP-40 in flight tests was promising. After evaluation of the XP-40 by U.S. Army Air Corps officials in 1939, Curtiss-Wright won a production contract for 540 P-40s with an armament package of two .50-caliber machine guns in the fuselage and four .30-caliber machine guns in the wings.

When P-40 production began in 1940, one of the first nations to order examples of the new fighter was France. France operated the Hawk 75, an export version of the P-36, and was enthusiastic about the potential of the new P-40. France ordered 140 examples of the P-40, but they were not built and delivered before France surrendered. The aircraft destined for France were sent to Britain instead, where they were named Tomahawks. The British found the P-40s performed poorly in high-altitude combat in Europe and instead sent their examples to North Africa. The rugged nature of the P-40 and its ability to operate in most climates made it ideally suited to combat operations in North Africa. The Russians also bought over 2,000 examples of the P-40 for use by the Soviet Air Force.

When the United States entered the war in 1941, the P-40, named the Warhawk in U.S. Army Air Forces service, was the standard fighter for many of the U.S. Army Air Forces front-line squadrons. During the Japanese Attack on Pearl Harbor on December 7th, P-40s were some of the few aircraft that got airborne that morning to put up any resistance against the Japanese air raid. The U.S. Army Air Forces used the P-40 early in the war extensively in the China-Burma-India theater of operations and the Aleutian Islands. Eventually, the P-40 was superseded in U.S. Army Air Forces service by faster and more advanced fighter aircraft such as the Republic P-47 Thunderbolt and the North American P-51 Mustang.

The unit that remains the most famous for its use of the P-40 during World War II is the American Volunteer Group (AVG) or the Flying Tigers, which fought in the China-Burma-India theater. The unit was organized by U.S. Army Air Forces Captain Claire Lee Chennault in 1940. During that year, the Chinese government gave Chennault over nine million dollars to buy airplanes and recruit pilots to fight against the overwhelming Japanese airpower in China. Chennault's efforts were strongly supported by the Chinese government, especially by Madam Chiang Kai-shek, a Lt. Colonel in the Chinese Air Force and who, for a time, was the service's overall commander. The payment from China diverted an order of 100 P-40B Tomahawks destined for the Royal Air Force to the Chinese Air Force. The next step in creating an air unit was pilots. A quietly signed executive order by President Roosevelt in April 1941 allowed Chennault to recruit from the ranks of American military reserve pilots. Within a few months, Chennault had 350 pilots for the unit.


*Carousel 1's Curtiss P-40B Warhawk model is an excellent model of the World War II fighter aircraft. The company accurately captured the distinctive shape of the early variants of the P-40 and accurately replicated all the colors and markings as they would have appeared on the actual aircraft. Another excellent feature of this model is the design of the landing gear parts. The parts are held in place by magnets rather than plastic tabs, which are often prone to fit issues and breakage over time.*


*Carousel 1's fighter aircraft models also came with an information card about the aircraft modeled and the pilot who flew it. Several models also came with a plastic display base with a simulated grass or aircraft carrier deck surface to display the model on a desktop or bookshelf. During the Japanese Attack on Pearl Harbor, 2nd Lt. George Welch flew this aircraft from Haleiwa Field, a small auxiliary airstrip that was not seriously damaged during the attack. Welch was one of the few American pilots to get airborne that morning and engage Japanese aircraft.*

The Flying Tigers' name was derived from the distinctive fangs and teeth painted on the noses of the P-40s at either side of the distinctive radiator intake. Royal Air Force P-40s operating in North Africa also had similar style markings on their noses. In seven months of action, the Flying Tigers destroyed approximately 115 Japanese aircraft for only 11 of their own in air-to-air combat. The American Volunteer Group disbanded in July 1942, and its planes and personnel became part of the U.S. Army Air Forces 23rd Fighter Group in the 14th Air Force.

As the war progressed, and with lessons learned from combat experience, Curtiss continued to improve the P-40. The P-40 gained additional armor plating, better self-sealing fuel tanks, airframe changes for improved aerodynamics, and more powerful engines. Curtiss changed the cockpit to improve visibility and modified the armament package to six .50-caliber machine guns mounted in the wings. The P-40E Kittyhawk was the first variant with this gun package installed. The last model of the P-40 built in large numbers was the P-40N. The lightest P-40 built, the P-40N was substantially faster than previous variants. Curtiss built a single P-40Q, which was even faster, but it could not match the performance of the P-51 Mustang, so Curtiss ended the development of the P-40 with this model, and production of the fighter ended in late 1944.

This 1/48 scale model of a Curtiss P-40B Warhawk was manufactured by the die-cast model manufacturer Carousel 1. Founded in 1998 by Frank Dalton, the company was known for its detailed die-cast models of Indianapolis 500 race cars and Chevrolet Corvettes in 1/18 scale. The company also had a product line of die-cast replicas of famous fighter aircraft in 1/48 scale. Unfortunately, Carousel 1 suffered from production delays and a lack of funding for new projects throughout its existence. After years of struggling financially, Carousel 1 went out of business in 2011.

This version of Carousel 1's Curtiss P-40B Warhawk model represents the aircraft flown by 2nd Lt. George Welch during the Japanese Attack on Pearl Harbor on December 7, 1941. A member of the 47th Pursuit Squadron, 15th Pursuit Group, Welch was one of the few American pilots to get airborne that morning. Welch destroyed two Japanese aircraft and damaged two others during two sorties flown that morning with fellow pilot 2nd Lt. Ken Taylor. Welch was awarded the Distinguished Flying Cross for his actions.

Carousel 1 did an excellent job on their Curtiss P-40B Warhawk model. The model has the correct shape of the early P-40 variants and has a detailed cockpit with a well-painted pilot figure. The model includes parts for both extended and retracted landing gear configurations. These parts are cleverly held in place by disguised magnets. Another excellent feature of the model is the included screw plugs to insert in the bottom of the model to hide the unsightly screw holes used to hold the model in its packaging. The model also has all the correct colors and markings to represent the aircraft flown by 2nd Lt. Welch on December 7, 1941.

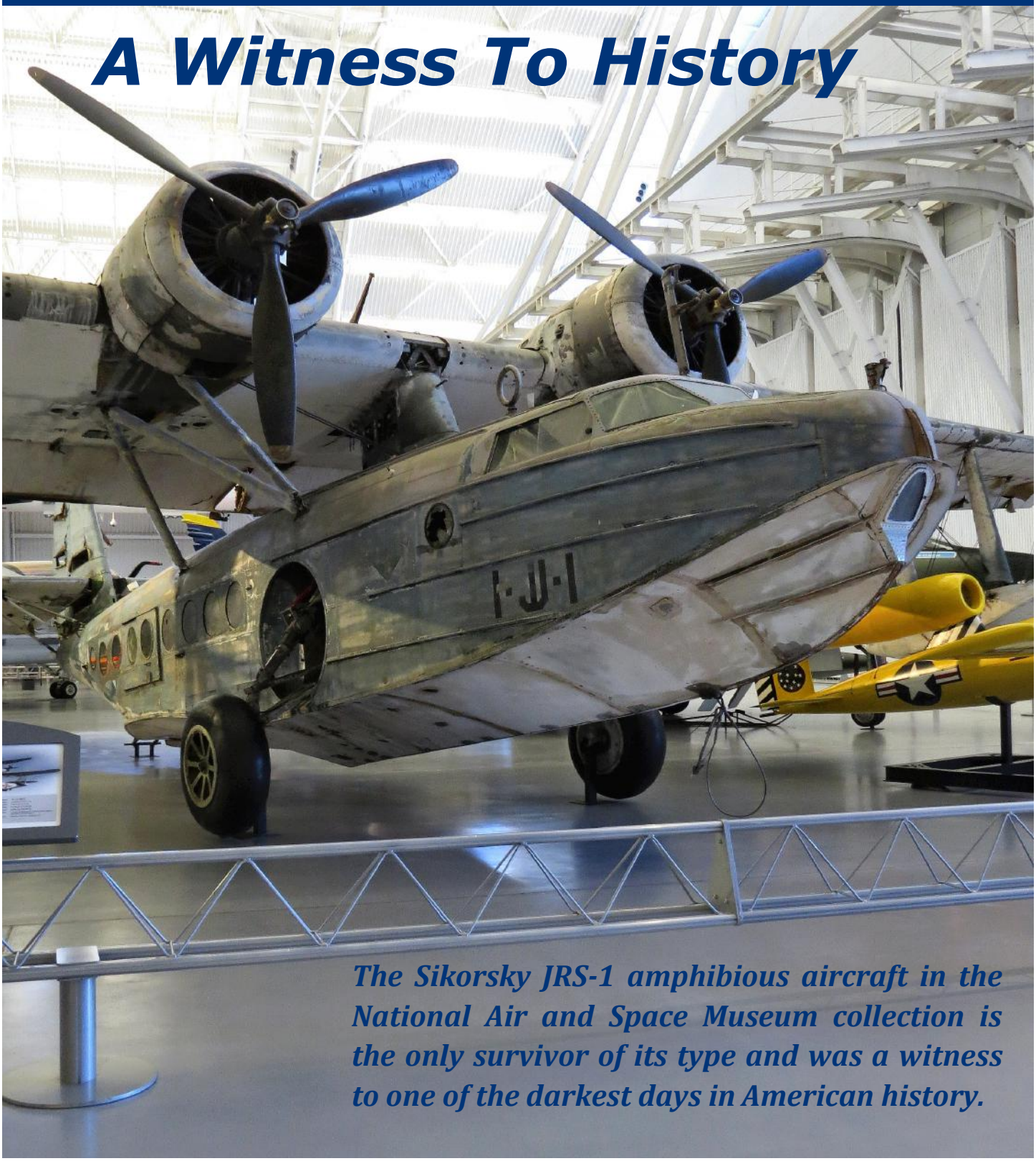
Another highlight of this model is the overall quality. The example of the model used for this review holds its own against newer models over 10 years after it was originally produced. The Carousel 1 P-40B Warhawk has a quality paint finish and comes in packaging that protects the model well for shipping and storage. This P-40B Warhawk also included some additional accessories, including an information card that is a small biography about George Welch and a plastic display base with a simulated grass surface that the P-40B can be placed on to add a sense of realism to the model when it is displayed on a desk or bookshelf.

There are a few minor issues with Carousel 1's P-40B Warhawk model. The magnets used to hold the landing gear pieces in place on the model are on the small side. As a result, they are not strong enough to hold the landing gear in place as securely as they should, and the landing gear parts can sometimes fall out when the model is being moved or handled. Another strange aspect of this model, and all Carousel 1 die-cast aircraft models, is that pieces were included to display the model with retracted landing gear, but the models do not come with a display stand to display them as if they were flying. So the retracted landing gear pieces are not very useful with this model.

Examples of the Carousel 1 Curtiss P-40B Warhawk model in 1/48 scale are often available in the second-hand market for reasonable prices. The model is a great collectible for any aviation enthusiast or history buff and compliments Carousel 1's Curtiss P-36A Hawk die-cast model, the fighter that was the predecessor to the P-40 Warhawk. The model also has a connection to one of the darkest days in American history and helps tell the story of one of the few pilots to get airborne and fight back against the Japanese aircraft on that terrible morning in any die-cast model airplane collection.


*Carousel 1's Curtiss P-40B Warhawk makes a great display companion to the company's Curtiss P-36A Hawk model, the mid-to-late 1930s fighter design that served as the basis for the improved P-40 Warhawk that entered service just a few years later. Sadly, Carousel 1 went out of business in 2011 after struggling financially for several years previously. Today, the P-40B and the P-36A models can be found in the second-hand market for reasonable prices, and they are an excellent addition to any die-cast model airplane collection.*

# A Witness To History



***The Sikorsky JRS-1 amphibious aircraft in the National Air and Space Museum collection is the only survivor of its type and was a witness to one of the darkest days in American history.***

*The Sikorsky JRS-1 displayed inside the National Air and Space Museum's Steven F. Udvar-Hazy Center. The JRS-1 was a practical aircraft for the U.S. Navy to operate in the utility role at the installations throughout the Hawaiian Islands as it could take off and land from both regular runways and water surfaces.*


*A photo of the National Air and Space Museum's Sikorsky JRS-1 in flight with Utility Squadron 1 (VJ-1) sometime between 1938 and 1941. VJ-1 used the Sikorsky JRS-1 for a variety of utility roles including transporting personnel and cargo, towing targets for anti-aircraft gunnery practice, and survey flights for aerial photography. (National Archives Photo)*

When its doors open to the public daily, the National Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Virginia, tells the story of aviation and space exploration through over 170 aircraft, 130 space vehicles, and thousands of smaller artifacts on display. Visitors to the museum can admire the sleek lines of the Concorde, the world's first supersonic commercial airliner, and the massive size of the Space Shuttle *Discovery,* which flew 39 missions and spent 365 days in space. Also on display is an example of the Lockheed SR-71 Blackbird spy plane, the fastest crewed airbreathing jet aircraft ever built. Visitors to the museum can also see an example of the Grumman F-14 Tomcat jet fighter, which gained fame when it was featured prominently in the movie *Top Gun*, and a Boeing/McDonnell Douglas F/A-18C Hornet once used by the world-famous U.S. Navy "Blue Angels" Flight Demonstration Squadron.

Thousands of smaller artifacts in the museum are just as intriguing, such as a collection of space suits worn by astronauts and a showcase of memorabilia commemorating Charles Lindbergh's New York to Paris flight with the *Spirit of St. Louis*. Another exhibit features space-themed toys and robots from the 1950s and 1960s. The museum also features dozens of models of famous aircraft professionally built by dedicated modelers.

Of all these incredible pieces of history within the Steven F. Udvar-Hazy Center, one aircraft currently displayed on the museum's ground floor museum deserves special attention. The Sikorsky JRS-1 amphibious aircraft on display has certainly seen better days. Some of its fuselage windows are broken, the paint is well-worn and weathered, and panels and fabric are missing on its wings. But this Sikorsky JRS-1 has special importance in the National Air and Space Museum collection because it was a witness to history. This aircraft is the only one in the national collection that was present during the Japanese Attack on Pearl Harbor on December 7, 1941. It is also one of only a handful of aircraft that survive in museums or in airworthy condition still in existence that were at Pearl Harbor on one of the darkest days in American history.

The Sikorsky S-43 "Baby Clipper" was an amphibious aircraft designed and built by Sikorsky Aircraft and was designed by the company's founder, Igor Sikorsky. The S-43 was a smaller version of Sikorsky's larger S-42 "Clipper". The S-43 had the benefit of not only having a watertight hull for operations off water surfaces but also conventional landing gear that allowed it to use normal runways. The conventional landing gear wheels retracted neatly into the S-43's hull, reducing drag and improving the aerodynamics of the airframe. The S-43 was marketed toward airlines that served routes in locations where the aircraft's amphibious qualities would be ideal.

The S-43 was designed to accommodate a flight crew of two, with a position for a radio operator and navigator available behind the cockpit for longer flights where a third crewmember would in this role was required. The S-43's passenger cabin could carry 18 to 25 passengers and had removable seats so that the aircraft could be configured for cargo operations. The S-43 was powered by a pair of Pratt & Whitney R-1690-52 Hornet nine-cylinder, air-cooled, radial engines developing 900 horsepower each. These engines were mounted high on the wing above the fuselage to minimize the ingestion of water spray. The S-43 had a top speed of 190 miles per hour, cruised at 166 miles per hour, and had a range of 673 nautical miles. Standard operating altitude was 19,000 feet, but in 1936, an S-43 set an altitude record for an amphibious aircraft when pilot Boris Sergievsky flew one to an altitude of 27,950 feet above the Sikorsky's headquarters in Stamford, Connecticut.

The S-43 was built in small numbers and primarily used by Pan American Airways for flights to Cuba within Latin America. Inter-Island Airlines (which rebranded to Hawaiian Airlines in 1941) operated four S-43s to fly passengers from Pan Am Clipper flights and local residents from Honolulu throughout the Hawaiian Islands. The Brazilian airline Panair do Brasil operated seven S-43s. A French company, Aerómaritime, operated five S-43s on a colonial airway between Dakar (Senegal) and Pointe-Noire (Congo) from 1937 to 1945.

*The Sikorsky JRS-1 was a military variant of the S-43 Baby Clipper amphibious aircraft used as a civilian airliner and transport. The U.S. Navy bought a small number of JRS-1s to use as utility aircraft. As utility aircraft, the JRS-1s performed a variety of daily roles needed by the U.S. Navy, such as delivering mail, aerial photography, and towing targets for anti-aircraft gunnery practice. This JRS-1 is the sole survivor of 17 built for the U.S. Navy in the late 1930s.*

*An information plaque mounted on the railing near the JRS-1 gives museum visitors a brief history of the aircraft and its importance in the National Air and Space Museum collection.*


The S-43's usefulness as an amphibious aircraft attracted the interest of the U.S. Navy, who felt it would be useful as a utility aircraft. The U.S. Navy ordered 17 S-43s, designated the JRS-1 in U.S. Navy service, between 1937 and 1939. Except for some minor changes, these aircraft were essentially the same as the civilian S-43. Two JRS-1s built for the U.S. Navy were transferred to the U.S. Marine Corps. The U.S. Army Air Corps also ordered five S-43s, designated the OA-8 in U.S. Army Air Corps service. The OA-8s were used for general utility work at U.S. Army Air Corps bases throughout the United States during the late 1930s and early 1940s.

In U.S. Navy service, most of the JRS-1s built were assigned to Utility Squadron One (VJ-1). Initially based at Naval Air Station San Diego in California, the squadron transferred to Naval Air Station Ford Island at Pearl Harbor, Hawaii, in 1940. The squadron flew its ten JRS-1s to Hawaii, with the aircraft fitted with extra fuel tanks in the fuselage so they could make the long flight, which was beyond the normal operating range of the JRS-1.

While stationed at Ford Island, VJ-1 operated in a utility role and was assigned flights that helped keep the U.S. Navy functioning on a daily basis in the Hawaiian Islands. Some of the tasks carried out by the JRS-1s of VJ-1 included towing targets for gunnery practice, aerial photography, and delivering mail, personnel, and other supplies to various military installations on the Hawaiian Islands.

When the Japanese attacked Pearl Harbor on December 7, 1941, all ten JRS-1s stationed at Ford Island survived the attack. The JRS-1s were quickly sent airborne with flight crews in a desperate search to find the Japanese fleet. It was hoped one of the JRS-1s could locate the Japanese fleet and radio its position back to Pearl Harbor. The JRS-1s searched for over two hours but failed to find the Japanese fleet. In the weeks following the attack, the JRS-1s were used for survey flights to take aerial photographs of the damage to the military installations and naval vessels throughout Pearl Harbor.


*A close-up of the nose section of the Sikorsky JRS-1. This photo shows how the JRS-1's conventional landing gear retracted into the hull. This photo also shows how the JRS-1's engines were mounted on the wing above the hull. Sikorsky chose this engine layout to keep them free of sea spray when the aircraft was used as a flying boat. The Consolidated PBY Catalina flying boat, which saw service in World War II, had a similar layout for its engines.*

The National Air and Space Museum's JRS-1, construction #4346, was completed by Sikorsky on July 12, 1938. It was the 13th aircraft delivered out of the 17 ordered by the U.S. Navy. Sikorsky officially delivered the JRS-1 to the U.S. Navy on July 28, 1938. The U.S. Navy assigned the aircraft to Utility Squadron One (VJ-1) at Naval Air Station San Diego, California, on August 3, 1938. In 1940, VJ-1 and its ten JRS-1s transferred from Naval Air Station San Diego to Naval Air Station Ford Island at Pearl Harbor. During its time at Pearl Harbor, this JRS-1 operated in a general utility role with VJ-1.

On December 7, 1941, Ensign Wesley Hoyt Ruth was having breakfast when the Japanese planes began bombing the Pearl Harbor military installations. He immediately got into his car and drove to the north end of the island, seeing the *U.S.S. Arizona* get bombed and explode while on the way there. After the two surprise attacks on the military installations at Pearl Harbor, over 300 planes and 20 ships were destroyed. Over 2,000 Americans were killed, and more than 1,000 were wounded. The attack forced the United States to enter World War II.

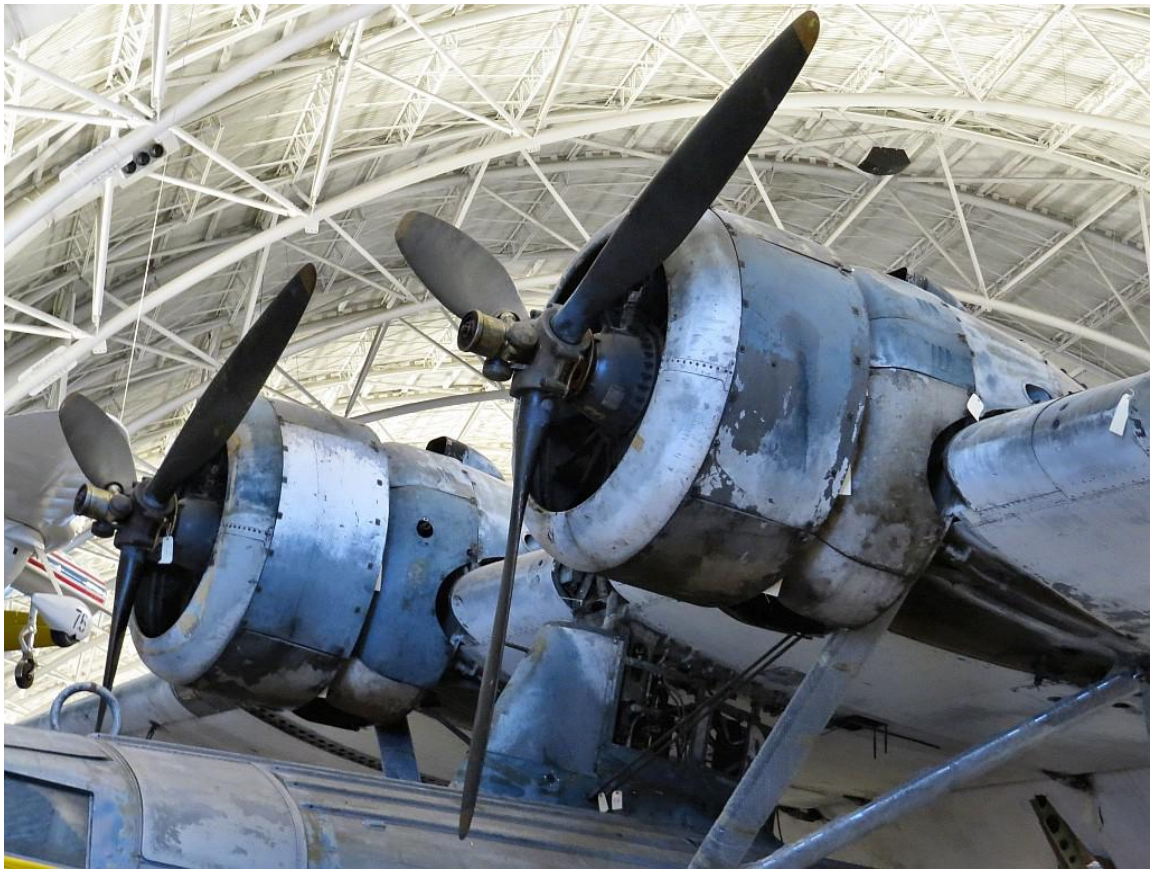
Finally making it to Naval Air Station Ford Island, Ruth climbed into the pilot's seat of the JRS-1 that is now part of the National Air and Space Museum's collection. Although not equipped for the mission as they were not fitted with defensive armament, armor-plating, or self-sealing fuel tanks, the JRS-1s were being pressed into service to conduct a frantic search for the Japanese fleet. Along with Ruth in the JRS-1 were a co-pilot, a radio operator, and three sailors. Other JRS-1s were being manned similarly. Just before Ruth took off, a senior officer ran up to the JRS-1 and gave the sailors three rifles. In addition to being extra lookouts, the sailors were tasked with defending the aircraft from any Japanese fighter aircraft that might attack them if they found the Japanese fleet. To shoot at any attacking Japanese aircraft, the sailors would have had to shatter the cabin windows on the JRS-1 or open the cabin door in flight. This would have been a futile effort against fast Japanese fighter aircraft.

In the middle of intense American anti-aircraft fire, Ruth and four other pilots got their JRS-1s airborne and headed out to search for the Japanese fleet. The JRS-1s could only carry depth charges to use against enemy submarines and did not carry any bombs or torpedoes to use against the Japanese ships. The hope was that if any of the JRS-1s found the Japanese ships, they could radio their position back to Pearl Harbor before being shot down by Japanese fighters so a counter-strike could be launched using U.S. aircraft at Pearl Harbor, and from the U.S. Navy Pacific Fleet aircraft carriers, which were fortunately not at Pearl Harbor at the time of the Japanese attack.

Ruth flew the JRS-1 about 1,000 feet below the clouds so he could duck into the clouds if the Japanese fleet was spotted in the hopes his aircraft wouldn't be seen. Ruth flew about 250 miles north and then turned east, failing to make contact with the Japanese fleet. What Ruth didn't know at the time was the Japanese fleet had turned northwest to recover their aircraft, and he had been within 30 miles of the Japanese ships with his JRS-1.

The next challenge for Ruth and his crew was to return safely to Naval Air Station Ford Island. In anticipation of additional Japanese air attacks, American anti-aircraft defenses were on high alert. Several American aircraft were shot down in friendly fire incidents in the hours after the Japanese attacked Pearl Harbor. Despite the danger, Ruth, his crew, and the other JRS-1s, returned to Naval Air Station Ford Island without incident.

In the days after the Japanese attack, the JRS-1s of VJ -1 continued to fly patrol missions to search for the Japanese fleet and Japanese submarines that might be lurking off the immediate coast. U.S. Navy ground crews quickly modified the JRS-1s so they could carry small general-purpose bombs in addition to depth charges and mounted defensive machine gun armament on the aircraft for use against enemy fighter aircraft that might attack. The JRS-1s also flew search and rescue missions to look for any survivors of the attack that might still be in the water.



*The Sikorsky JRS-1 was powered by a pair of Pratt & Whitney R-1690-52 Hornet nine-cylinder, air-cooled radial engines. These engines developed 900 horsepower each. These engines gave the JRS-1 a top speed of 190 miles per hour and the ability to fly to altitudes of 19,000 feet.*

A critical task of the JRS-1s of VJ-1 in the weeks following the Japanese Attack on Pearl Harbor was aerial photography. The JRS-1s and their crews flew dozens of aerial photography survey missions over the Hawaiian Islands. The aerial photography taken by the JRS-1s and their crews helped the U.S. Navy and other branches of the military conduct damage assessments of ships and installations and plan salvage operations. Most of the surviving aerial photographs of the aftermath of the Japanese Attack on Pearl Harbor were taken by the JRS-1s and their crews in the weeks after the attack.

The National Air and Space Museum's JRS-1 also underwent a paint scheme change following the Japanese attack. Before the attack, the aircraft was painted silver with bright chrome yellow wings and colorful markings identifying its squadron and role. In the weeks following the attack, U.S. Navy ground crews quickly changed the JRS-1s color scheme to a blue-gray top coat with light gray undersurfaces. The JRS-1 was painted in this color scheme to provide a measure of camouflage to the airplane for wartime operations.

The National Air and Space Museum's JRS-1 was removed from flying patrol and aerial photography work in September 1942. In 1943, the airplane was given a complete overhaul and sent to Moffet Field in California. At Moffet Field, it became the personal aircraft assigned to the commander of Airship Wing 31. The JRS-1 was assigned to this role until August 1944, when it was withdrawn from service and placed into storage with only 1,850 flying hours on the airframe.

In 1946, the JRS-1 was pulled out of storage and modified for a unique role. The airplane was part of a research project conducted by the National Advisory Committee for Aeronautics (NACA), the predecessor to NASA. The JRS-1 was used by NACA in a series of experiments to improve the hull designs of amphibians and seaplanes. When the experiment was concluded, the JRS-1 was sent to Bush Field in Georgia for long-term storage.

*Close-up photo of the main landing gear of the Sikorsky JRS-1. In addition to being used to land and take off from conventional runways, the JRS-1 could, in theory, be taxied down a seaplane ramp into the water on its landing gear. Once in the water, the pilot would retract the landing gear before taking off.*

*A fascinating aspect of the JRS-1's history is its paint. In the weeks after the Pearl Harbor attack, U.S. Navy ground crews hastily painted the aircraft blue-gray for wartime operations. This paint was applied over the original paint. Since its retirement in 1944, the JRS-1 has been exposed to the elements in outside storage. This has faded the blue paint, revealing the VJ-1 squadron emblem underneath the blue paint.*

When the JRS-1 was in storage at Bush Field, a ferry pilot curious about the airplane began flipping through the airplane's logbook, which documented the JRS-1's flights and history. While looking through these entries, an entry dated December 7, 1941, caught the pilot's eye. At the time, the Smithsonian Institution was in search of an aircraft for its collection that had been at Pearl Harbor during the Japanese attack. After seeing the logbook, the pilot contacted the U.S. Navy, who promptly contacted the Smithsonian Institution and asked them if they would like the JRS-1 for the National Air and Space Museum. After several discussions, the U.S. Navy agreed to donate the JRS-1 to the Smithsonian Institution, and the National Air and Space Museum took possession of the JRS-1 in 1960.

For many years, the JRS-1 sat in storage at the National Air and Space Museum's Paul E. Garber Restoration Facility in Suitland, Maryland. Unfortunately, due to its size and limited space in the facility, the JRS-1 spent considerable time in outside storage, where the elements took their toll on the airframe. The current condition of the JRS-1's airframe reflects those years of outside storage and damage sustained when moving the airplane several times while it was in storage. The JRS-1 was eventually moved inside one of the buildings at the Paul E. Garber Restoration Facility but could only be seen by visitors who signed up for curator-guided tours of the facility.

When the larger National Air and Space Museum Steven F. Udvar-Hazy Center was built in 2003, museum curators planned to move the JRS-1 into the newer building, which could accommodate larger aircraft on display that the flagship building on the National Mall could not. Unfortunately, due to a lack of funding, the planned restoration hangar for the Steven F. Udvar-Hazy Center was not built as part of the initial museum project. In 2008, the National Air and Space Museum finally raised enough funding to complete the Mary Baker Engen Restoration Hanger portion of the Steven F. Udvar Hazy Center. This state-of-the-art restoration facility was completed in 2010.

*The Sikorsky JRS-1 had larger floats mounted to each of its wings. These floats were designed to keep the aircraft stable while taking off, landing, and taxing on a body of water. Unlike some flying boats and amphibious aircraft like the Consolidated PBY Catalina, the floats on the JRS-1 did not retract into the wings. The shattered window that can be seen in this photo behind the cockpit is the radio operator compartment.*

In March 2011, National Air and Space Museum curators moved the Sikorsky JRS-1 to the Mary Baker Engen Restoration Hangar. The aircraft was put on the back of several flatbed tractor-trailers in pieces for the trip from the Paul E. Garber Restoration Facility in Maryland to the Steven F. Udvar-Hazy Center in Virginia. Once in the hangar, museum curators began working on the preservation and conversation of some airframe components to repair corrosion and prevent further damage. The move from the Paul Garber Restoration Facility to the Mary Baker Engen Restoration Hangar also allowed the JRS-1 to be stored in an environment with improved climate control to prevent further deterioration of the airframe. Some components, such as the tires for the main landing gear, were dry-rotted beyond salvage and needed to be replaced with new examples.

During its time in the Mary Baker Engen Restoration Hangar, the JRS-1 was visited by Lt. Cmdr. Harvey Waldron, U.S. Navy, (ret.) who flew on the aircraft as the radio operator during several patrol flights after the Japanese attack. Waldron was just going off duty when the Japanese attacked on December 7, but by December 8, was flying on patrol missions as a radio operator in the museum's JRS-1. Waldron could hardly contain his tears as he saw the JRS-1 and his old radio operator's position for the first time in nearly six decades. In addition to visiting with his old airplane, Waldron agreed to give a three-hour oral history of his experiences during the Japanese Attack on Pearl Harbor to the National Air and Space Museum. Waldron passed away in 2017.

The pilot of the National Air and Space Museum's JRS-1 during the flight to search for the Japanese fleet on December 7, 1941, Ensign Wesley Hoyt Ruth, also gave several interviews about his experiences, which were also the subject of a book about the attack. Ruth and the other pilots who flew the JRS-1s that day on the search mission to locate the Japanese fleet were awarded the Navy Cross for their efforts. Surviving the war, Ruth had a long career in the U.S. Navy, retiring in 1960. The decorated Pearl Harbor veteran died in 2015 at the age of 101.

After spending several years in the Mary Baker Engen Restoration Hangar, museum curators decided to assemble the JRS-1 in its unrestored condition and display it on the museum floor of the Steven F. Udvar-Hazy Center. Moving the JRS-1 out to the museum floor allowed the millions of visitors the museum welcomes annually to see the aircraft up close. It also freed up space in the Mary Baker Engen Restoration Hangar for several restoration projects National Air and Space Museum curators had planned for the years ahead. At this time, museum curators have not decided if the JRS-1 will be restored to its colorful inter-war color scheme or the blue-gray color scheme it wore after the Pearl Harbor attack. As the National Air and Space Museum is currently completing a major renovation of the flagship building on the National Mall, the complete restoration of the JRS-1 is likely several years away.

Today, the Sikorsky JRS-1, in its current condition, has many stories to tell visitors of the National Air and Space Museum's Steven F. Udvar-Hazy Center. People seeing the JRS-1 for the first time wonder what an airplane in such bad shape is doing in a museum. After reading the information placard nearby, members of the public realize the JRS-1's importance in the museum collection.

The blue paint, hastily applied in the weeks following the Pearl Harbor attack, has faded over time due to outdoor exposure to the elements. Today, the strokes made by the ground crew member who sprayed the JRS-1 blue-gray are visible on the airframe. The uneven nature of the stokes and their inconsistent lengths give clues to how quickly the paint job was done. The fading paint has also revealed that this paint was applied over the JRS-1's original bright yellow and silver paint scheme. Visible through the paint are the JRS-1's identification stripe and VJ-1's squadron emblem, which was a pelican with a photographer in its beak carrying mailbags. This emblem is a nod to the original mission of VJ-1, utility work such as transporting mail, personnel, and cargo to different military installations throughout the Hawaiian Islands.


*The Sikorsky JRS-1 is on the list to be restored by National Air and Space Museum curators. The JRS-1's current condition is due to many years of outside storage. The wings and tail surfaces of the aircraft are fabric-covered, and that fabric has ripped and deteriorated due to decades of exposure to natural elements. Museum curators decided to assemble the JRS-1 and display the aircraft while it awaits restoration so that people can see it and learn about its history.*

Visitors to the museum can also examine the interesting features of the Sikorsky JRS-1, including the engines mounted up high on its wing and the conventional main landing gear wheels that retract into the streamlined hull. The JRS-1 also exhibits signs of exposure to the elements that come with spending many years outside. Torn fabric, shattered fuselage windows, and missing access panels are all visible on the JRS-1. Fortunately, enough of the original airframe remains intact so it can be fully restored to its original condition in the future.

The Sikorsky JRS-1 in the National Air and Space Museum collection is one of less than ten aircraft surviving that was present during the Japanese Attack on Pearl Harbor on December 7, 1941. The JRS-1 holds the distinction of being the only aircraft in the National Air and Space Museum's collection that was at Pearl Harbor that day. Sent out after the attack to search for the Japanese fleet, this JRS-1, usually used for utility and aerial photography work, was pressed into service for a mission it was never intended to do. On December 7, 1941, despite the enormous risk to themselves if they had been discovered by Japanese fighters, the crew of this JRS-1 and the others assigned to search for the Japanese fleet in the hours after the attack performed their mission with the utmost professionalism and dedication. In the weeks following the attack, this JRS-1 and the crews that flew it performed invaluable service by providing aerial photos for damage assessments and salvage operations.

Today, as museum visitors walk past the Sikorsky JRS-1 in the National Air and Space Museum's Steven F. Udvar-Hazy Center, they may see it as a rundown, old airplane. Those who know its story or stop to read the information placard realize they are looking at an aircraft that was a witness to history. The Sikorsky JRS-1 is an important reminder to all Americans always to remember what happened at Pearl Harbor on December 7, 1941, and the men and women who made the ultimate sacrifice in service to our nation on one of the darkest days in American history.


*I take a moment to pose for a photograph with an incredible piece of American history inside the National Air and Space Museum's Steven F. Udvar-Hazy Center, the museum's Sikorsky JRS-1, a Pearl Harbor veteran.*


*On December 7, 1941, the National Air and Space Museum's Sikorsky JRS-1 wore this colorful paint scheme. The hull was natural metal with a gloss black underside, the upper wings were painted chrome yellow with the undersides painted light gray. The willow green tail surfaces identified the JRS-1 as part of Utility Squadron 1 (VJ-1). The red stripe on the fuselage, the red stripes around the engine cowlings, and the 1-J-1 code on the nose identify the JRS-1 as being the squadron commander's aircraft.*


*In the weeks following the Japanese Attack on Pearl Harbor, the National Air and Space Museum's Sikorsky JRS-1 would have wore colors and markings similar to the ones seen above on JRS-1 1-J-9, the ninth airplane in VJ-1. The airplane's colorful prewar paint scheme was changed to blue-gray with light gray undersides. The blue-gray and light gray colors on the National Air and Space Museum's JRS-1 have faded from years of exposure to the elements, and the colors would have appeared much darker in late 1941.*

# North American F-86A Sabre


*A North American F-86A Sabre on display in the National Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Virginia. The F-86 Sabre was America's first swept-wing jet fighter aircraft and is considered one of the most important aircraft to take part in the Korean War. This F-86A Sabre is a Korean War veteran, seeing action with the 4th Fighter Interceptor Wing during the conflict.*

The North American F-86 Sabre, sometimes called the Sabrejet, was America's first swept-wing jet fighter aircraft. Produced by North American Aviation, the F-86 Sabre is best known for its use during the Korean War, where it fought some of the earliest jet-to-jet battles in history against the Soviet-built MiG-15 in high-speed dogfights over the Yalu River area of Korea. Developed in the 1940s and outdated by the 1950s, the F-86 Sabre proved to be a versatile and adaptable aircraft, being used by numerous air forces as a front-line fighter. The F-86's success led to an extended production run from 1949 to 1956, with the type license-built in Canada, Japan, and Italy. With 9,860 examples produced, the Sabre holds the distinction of being the most-produced Western jet fighter.

The origins of the Sabre began in 1944 when the U.S. Army Air Forces ordered three prototypes of a North American FJ-1 Fury, a straight-wing jet fighter being developed for the U.S. Navy. The new prototype was designated the XP-86. The design proceeded through early development but by 1945, it was apparent the XP-86 would not be able to reach the 600 miles per hour top speed called for in the design specifications.

With the surrender of Germany to the Allies in May 1945, Allied military forces recovered a massive amount of aerodynamic data Germany had used for developing some of their more radical aircraft designs, such as the Messerschmitt Me-262 jet fighter. This data was shared with American aircraft designers, including North American Aviation, which was working on the XP-86. The data revealed that swept wings on aircraft delayed the effects of compressibility on the control surfaces encountered at high speeds. Swept wings also allowed aircraft to reach higher top speeds. The data also revealed that swept wings caused low-speed stability and control problems. After conducting wind tunnel testing using a scale model, North American Aviation designers selected a wing swept back to 35° for the XP-86 and added automatic leading edge slats to address stability problems. The radical change to a swept wing was met with resistance by some of the engineering team, as the XP-86 was in the advanced stages of its design process.

The first XP-86 flew on October 1, 1947, powered by a General Electric J35-C-3 turbojet engine. In 1947, the U.S. Air Force ordered 221 P-86s powered by an improved General Electric J47-GE-1 turbojet engine. The designation was later changed to F-86 in 1948. During a flight in April 1948, the XP-86 exceeded Mach 1 in a shallow dive. In September of that year, an F-86 Sabre set a world speed record of 671 miles per hour. The F-86 was armed with six .50-caliber machine guns mounted in the nose.

The F-86 Sabre officially entered service in 1949 with the 1st Fighter Wing's 94th Fighter Squadron. In addition to its high performance, the F-86 Sabre had excellent handling characteristics and was well-liked by its pilots. Unfortunately, the transition to jet engines and swept wings led to many accidents and mishaps, even with experienced pilots. To help ease the transition to jet aircraft, North American Aviation sent experienced test pilots to operational fighter squadrons to provide training and demonstrations of the F-86 to help lower the accident rate.

At the onset of the Korean War, the American straight-wing fighter jets, the Lockheed P-80 Shooting Star and Republic F-84 Thunderjet, initially achieved some air-to-air victories. The appearance of the swept-wing MiG-15 dramatically changed the situation, as it was superior to all the aircraft operated by the U.N. forces.

Three squadrons of F-86s were rushed to Korea in December 1950, with the 4th Fighter Interceptor Wing being one of the first units to arrive. The F-86A and MiG-15 were fairly evenly matched, with the MiG-15 having the advantage in firepower, rate of climb, turning rate, and acceleration, while the F-86 had an advantage in overall top speed and diving speed.

Combat experience led to improved versions of the F-86 Sabre being developed. The F-86E introduced an all-moving tailplane, greatly improving handling at high speeds. When the F-86F, with a new wing design and more powerful engine, was introduced, the two aircraft became more evenly matched. A greater emphasis on training also gave American pilots a considerable edge over their adversaries.

By the end of the Korean War, F-86 Sabre pilots claimed over 800 MiG-15s destroyed compared to a loss of less than 80 F-86s. These numbers are most likely exaggerated, but most aviation historians agree the F-86 was the more successful aircraft. The reasons for this success point to the superior training of the American pilots compared to their adversaries. It is now known that Soviet pilots flew the majority of the MiG-15s that fought in Korea, with some North Korean and Chinese pilots participating later in the war.

The F-86 Sabre was also used in combat in several other conflicts. F-86Fs and RF-86Fs of the Republic of China Air Force were used against the People's Liberation Army Air Force MiG-15s and MiG-17s during the 1958 Taiwan Strait Crisis. During this conflict, the Republic of China Air Force pilots flying F-86s introduced a new element to aerial warfare. Under a secret effort called Operation Black Magic, the U.S. Navy provided the Republic of China with a small number of AIM-9 Sidewinders, the first infrared-homing air-to-air missile. With help from personnel from U.S. Marine Corps squadron VMF-323, Naval Air Weapons Station China Lake, and North American Aviation, 20 Republic of China Air Force F-86s were modified to carry the missiles, and pilots from the Republic of China pilots were instructed in their use.

The F-86 was also used by Pakistan in several conflicts. Pakistani Forces first used the F-86 Sabre in bombing attacks against Afghan Army forces in the 1960-1961 Bajaur Campaign. The F-86 was also used for both air-to-air combat and ground attack missions during the Indo-Pakistani War of 1965. The F-86s were used again in the 1971 civil conflict and subsequent Indo-Pakistani War. During this conflict, Pakistan modified its F-86s to carry general-purpose bombs to provide as much effective air support as possible against Indian Army tanks and armored vehicles.

The F-86 was also used in combat by the Portuguese Air Force. Portugal received 50 F-86Fs from ex-USAF stocks in 1958. Some of these aircraft were deployed to Portuguese Guinea in 1961. These F-86s were used during the 1961 Guinea-Bissau War of Independence against insurgent forces in close support operations.

The F-86 Sabre was built in several variants during its production run. The most produced were the E and F variants, which introduced more powerful engines, a redesigned wing, and improved control surfaces. Another important variant of the F-86 Sabre was the D variant. The F-86D was built as an all-weather interceptor with radar in its nose and mounted rockets instead of guns as armament. The F-86K was a D-variant of the Sabre equipped with four 20 mm cannons in the nose, replacing the rockets as armament.

The F-86 enjoyed considerable export success and was operated by the air arms of many smaller nations for several years after the Sabre became obsolete in the world's larger air forces. The last military user of the F-86 Sabre was the Bolivian Air Force, which retired their examples of the iconic jet fighter aircraft in 1994. In addition to being exported to other nations, the F-86 was license-built in Japan, Italy, and Canada.

In Canada, the Sabre was license-built as the CL-13 by Canadair for the Royal Canadian Air Force. The initial Sabres built by Canadair were similar to their U.S.-built counterparts. Beginning with Mk. 5 and Mk. 6 variants, Canadair replaced the General Electric J47 engine with the more powerful Avro Canada Orenda engine. The installation of the Orenda engine gave the later variants of the Canadian-built Sabres improved performance compared to the U.S.-built variants. Canadair built over 1,800 CL-13 Sabres, some of which were exported to countries such as Great Britain, West Germany, Colombia, South Africa, Greece, Pakistan, and Italy.

The National Air and Space Museum's Sabre is an F-86A variant. In July 1949, it was assigned to the 4th Fighter Interceptor Group based at Langley Air Force Base in Virginia. The 4th Fighter Interceptor Group deployed to Korea in 1950, and the F-86A was shipped to Japan with other F-86s from the squadron and then flown to Korea. This F-86A flew several combat missions against MiG-15s over the Yalu River area of Korea. Most of these missions originated from the Kimpo Air Base near Seoul. The F-86A is on display at the National Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Virginia.

# Curtiss P-36A Hawk (1938)

*The Curtiss P-36A Hawk, also known as the Curtiss Hawk Model 75, is an American-designed and built fighter aircraft of the late 1930s and early 1940s. It was one of the first of a new generation of combat aircraft that had a sleek monoplane design with retractable landing gear and made extensive use of metal in its construction. Introduced into U.S. Army Air Corps service in 1938, the P-36A was quickly rendered obsolete by the appearance of more modern fighter aircraft designs and relegated to secondary roles. As the Curtiss Hawk Model 75, the aircraft was exported to several countries and was widely used by the French Air Force during the Battle of France. The P-36 Hawk design was used to develop the more capable P-40 Warhawk. This preserved P-36A Hawk is displayed in the Museum of the U.S. Air Force in Dayton, Ohio.*

## *Curtiss P-36A Hawk*

**Crew:** 1 (Pilot)

**Length:** 28 ft 6 in

**Height:** 8 ft 5 in

**Wingspan:** 37 ft 4 in

**Wing Area:** 235.94 sq ft

**Powerplant:** Pratt & Whitney R-1830-17 Twin Wasp 14-cylinder air-cooled radial piston engine

**Range:** 860 nmi

**Cruise Speed:** 270 mph

**Maximum Speed:** 313 mph

**Empty/Maximum Takeoff Weights:** 4,567 lb/6,010 lb

**Service Ceiling:** 32,700 ft

**Armament:** 0.30 in M1919 Browning machine gun (x1), 0.50 in M2 Browning machine gun (x1), some later models fitted with a hardpoint under each wing or a light bomb rack to carry a maximum bomb load of 200 lb.

# Pearl Harbor Defender

## Armament

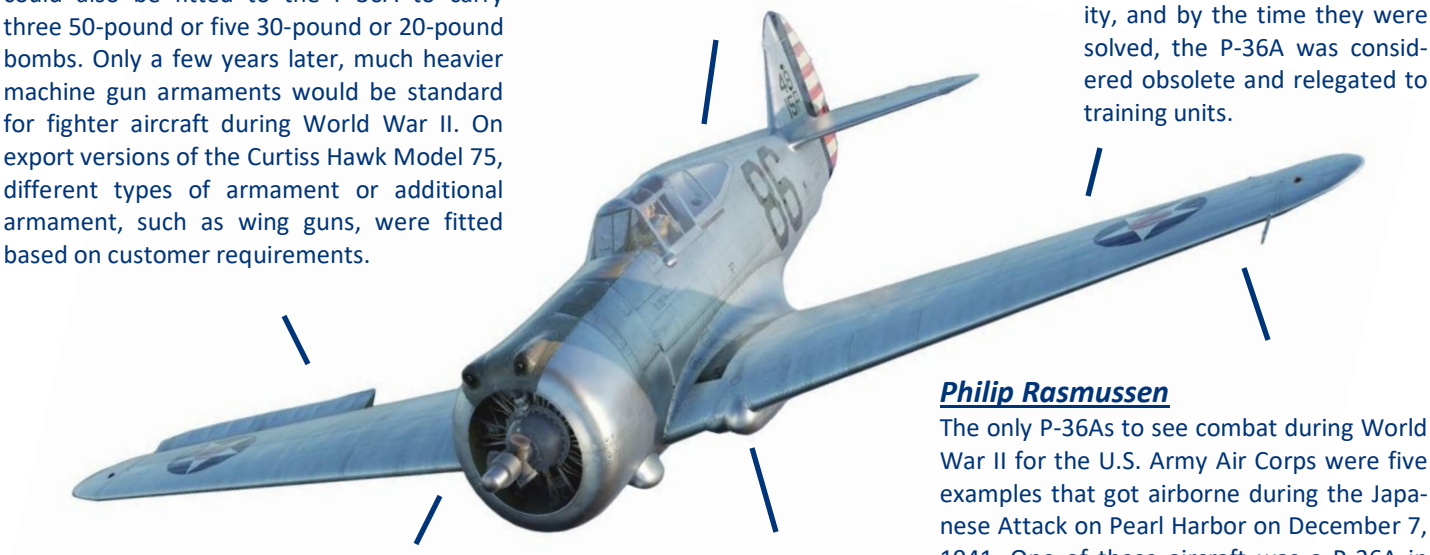
The P-36A was armed with a .30 in M1919 Browning machine gun and a 0.50 in M2 Browning machine gun mounted in the upper engine cowling and synchronized to fire through the propeller arc. This machine gun armament was standard for U.S. Army Air Corps fighter aircraft in the mid-to-late 1930s. On late production variants of the P-36A, underwing hardpoints were fitted so the fighter could carry a bomb weighing up to 100 pounds under each wing. A light bomb rack could also be fitted to the P-36A to carry three 50-pound or five 30-pound or 20-pound bombs. Only a few years later, much heavier machine gun armaments would be standard for fighter aircraft during World War II. On export versions of the Curtiss Hawk Model 75, different types of armament or additional armament, such as wing guns, were fitted based on customer requirements.

## Cockpit

For improved rearward visibility for the pilot, Curtiss installed scalloped windows on the fuselage of the P-36 behind the pilot. These scalloped windows became a distinguishing feature of the P-36A Hawk and the later P-40 Warhawk. As was common practice for the time, the P-36A's cockpit included no armor protection for the pilot. Within a few years after the P-36A's introduction into service, all fighter aircraft would have cockpits featuring bulletproof windshields and armor protection for the pilot.

## Structure

The Curtiss P-36A Hawk was constructed almost entirely of metal, with fabric used to cover the control surfaces. As the use of metal in the construction of fighter aircraft was new to Curtiss, early P-36As were plagued with structural issues, including skin buckling over landing gear and weak points in the airframe. These structural issues limited the P-36A's serviceability, and by the time they were solved, the P-36A was considered obsolete and relegated to training units.



## Powerplant

The P-36A Hawk was powered by a Pratt & Whitney R-1830-17 Twin Wasp air-cooled radial engine. This 14-cylinder engine produced 1,050 horsepower and drove a three-blade constant-speed propeller. Unfortunately, this engine was fitted with only a single-speed supercharger and was considered underpowered for the airframe. As a result of the engine's limited horsepower output, the P-36A's performance suffered at high altitudes in speed and acceleration. Similar to different armament configurations, different engines, such as the Wright Cyclone R-1820 radial engine, were sometimes fitted to export variants of the Curtiss Hawk Model 75 based on customer requirements.

## Landing Gear

The P-36A Hawk featured retractable landing gear, which rotated 90° to fold the main wheels flat into the thin trailing portion of the wing, resting atop the lower ends of the main gear struts when retracted. This same landing gear design would also be used on the P-36's successor, the Curtiss P-40 Warhawk. The design of this distinctive landing gear was patented by Boeing, so Curtiss had to pay royalties to use it on their aircraft. A simplified version of the Curtiss Hawk Model 75, the Hawk 75O, operated by Argentine Army Aviation, had fixed landing gear for operation off rough airstrips and ease of maintenance.

## Philip Rasmussen

The only P-36As to see combat during World War II for the U.S. Army Air Corps were five examples that got airborne during the Japanese Attack on Pearl Harbor on December 7, 1941. One of these aircraft was a P-36A in the markings shown above flown by 2nd Lt. Philip Rasmussen. Taking off under enemy fire with three other pilots from the 46th Pursuit Squadron, 15th Pursuit Group based at Wheeler Field, Rasmussen was directed by radio to Kaneohe Bay, where he and the other pilots engaged 11 Japanese aircraft. Rasmussen shot down one Japanese Mitsubishi A6M2 "Zero" fighter but was attacked immediately by two more. With his P-36A suffering heavy damage, including a destroyed radio and severed rudder cable, Rasmussen escaped his pursuers by flying into a cloud. He later landed safely at Wheeler Field with over 500 bullet holes in his aircraft. Rasmussen was awarded the Silver Star for his actions. He survived the war and had a long military career, retiring from the U.S. Air Force in 1965.

# 2024 Holiday Letter From The Editor

*Greetings Everyone:*

*The holiday season is upon us and along with it are the traditions of time spent with family and friends, great food, making magical moments for children, generously helping those in need, and giving gifts. During the holiday season, I always remember my grandparents who loved the holiday season. My grandmother loved finding the perfect cards for her friends and sitting down to write individual letters inside each card. She also insisted that everyone in the family had a package to open for Christmas even if she gave money as a gift. My grandfather loved taking her shopping for gifts and enjoyed collecting the Hallmark "Sky's The Limit" ornament series each year with me. My grandparents and their unwavering support of my interest in aviation and airplanes is part of the reason why this newsletter is published and has grown into what it has become. I continue to write this newsletter to honor their memory and share my aviation content with fellow aviation enthusiasts.*

*This was the 11th year "Distelfink Airlines" has been published, and it was an incredible year for the growth of the newsletter. For the first time in its publication history, the newsletter reached over 2,000 readers in a month. The newsletter has also surpassed 15,000 readers for this year, another record. The newsletter also reached readers in several new countries including Estonia, Slovakia, Slovenia, the Republic of Serbia, Ghana, Morocco, Bolivia, Peru, Venezuela, and the Dominican Republic. The newsletter also reached some new territories including Malta, Guam, and the Faroe Islands. It is great to see so many people worldwide enjoying the newsletter and its content. Highlights for this year included covering the Italian Air Force's "Frecce Tricolori" perform at two airshows during their 2024 North American Tour, the Mid-Atlantic Air Museum's World War II Weekend, and returning to the National Warplane Museum's Geneseo Airshow to cover that event after being away from it for several years. It was also a pleasure to cover the Golden Age Air Museum's Great Pumpkin Fly-In and the B-29 Superfortress "Doc" visiting the Lehigh Valley International Airport in the spring. There was also some sadness during this year as my friend and colleague Shawn Yost passed away from cancer over the summer. I miss seeing Shawn at airshows and our conversations and think of him often. In October, longtime Old Rhinebeck Aerodrome pilot, volunteer, and Board of Trustees member Brian Coughlin lost his life in a crash at the Aerodrome during one of the Saturday afternoon airshows. It was heartwarming to see so many people in the Old Rhinebeck Aerodrome and vintage aircraft communities come together to support the Aerodrome and Brian Coughlin's friends and family as they navigated the difficult days and weeks after his tragic loss.*

*This year, I had the opportunity to cover several airshows and aviation events representing "Distelfink Airlines" and to work with some incredible aviation photojournalists and aviation photographers. I appreciate their friendship and enjoy working with them professionally as colleagues. I find it fascinating how several people can cover the same airshow and get entirely different photographs and articles from the same event. In the end, we all have the same mission to tell the stories of airshows, aviation museums, aviation history, and aircraft, and to share the passion we have for them with others. I look forward to working with these colleagues in 2025 and continuing to cover airshows and aviation events with "Distelfink Airlines". I also want to thank the numerous volunteers, media coordinators, and public relations personnel I worked at airshows and aviation museums throughout the year. These professionals are instrumental in helping to gain access to aircraft and people at airshows and aviation events. Without their assistance, "Distelfink Airlines" would not be the publication it is.*

*Looking ahead to 2025, "Distelfink Airlines" will follow the same format with minor changes. Feature articles will cover a variety of aviation topics including airshows, aviation events, aviation museums, iconic aircraft types, and other aviation–related content. The smaller sections will again cater to aviation topics related to their themes. I expect the first edition of "Distelfink Airlines" to be ready sometime in February. As has been typical for the past few years, I will take a break from publishing and writing over the holidays to spend time with friends and family and have some downtime.*

*Thank you again for supporting my aviation photojournalism efforts and for taking the time to read "Distelfink Airlines". I wish all of you a very safe and wonderful holiday season with your family and friends.*

*Best Wishes & Happy Holidays!*
*Corey*



Distelfink Airlines

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# ABOUT DISTELFINK AIRLINES

*My late grandfather, John Brey, and I at the 2007 Geneseo Airshow. This was one of the few times that we had our photo taken together at an airshow.*

***The story of "Distelfink Airlines" begins in the early 1990s when my late grandfather, John Brey, began building and flying remote control model aircraft in his retirement. He enjoyed the hobby and quickly amassed a large fleet of model airplanes, which filled his garage and woodworking shop. He gave a name to his fleet of aircraft, "Distelfink Airlines". For the symbol of his fleet, he chose the Pennsylvania Dutch/German hex sign featuring the "Distelfink", a colorful bird that is a symbol of good luck and happiness. This hex sign and symbol is very common on Pennsylvania Dutch/German barns in Eastern Pennsylvania and is an important part of our local culture. He had custom "Distelfink" decals made for all his airplanes and had T-shirts made with "Distelfink Airlines" printed on them. It wasn't long before curious people began asking about "Distelfink Airlines" and what it was. My grandfather told anyone who asked that "Distelfink Airlines" was a new startup airline that was going to be offering service between the Lehigh Valley International Airport and Philadelphia International Airport with more routes to come soon.***

***In addition to flying his model airplanes, my grandfather enjoyed attending airshows and we traveled to airshows together for almost 20 years. He also enjoyed local aviation history and was particularly fascinated by the history of the Consolidated TBY Sea Wolf, a torpedo bomber that was built locally in Allentown, Pennsylvania during World War II. He also remembered when famous aviator Amelia Earhart visited the Lehigh Valley in the early 1930s to raise funds for her failed attempt to become the first woman to fly around the world.***

***Established in 2013 in memory of my grandfather, "Distelfink Airlines" is an online aviation newsletter that carries on a tradition of sharing a love for aviation that my grandfather shared with me. This newsletter features photographs and writings on a variety of aviation topics. The logo that was chosen for "Distelfink Airlines" is the hex sign that my grandfather chose for his fleet of remote control model aircraft many years ago. This proud symbol of local Pennsylvania Dutch/German culture is joined by a pair of Consolidated TBY Sea Wolf torpedo bombers, the aircraft that was built locally in Allentown during World War II and is such an important part of our local aviation history. Thank you for reading "Distelfink Airlines" and sharing in the passion for aviation that my grandfather shared with me.***