Holiday Edition 2025

Corey J Beitler's

"Distelfink Airlines"

An Online Aviation Newsletter

The Glenn H. Curtiss Museum

Boeing 737 MAX 8-200

Vintage Aviation-Themed Lithographed Metal Sand Pail

Corgi The Wright Flyer 100 Years of Flight Diorama Set

Republic P-47D-30-RA Thunderbolt

McDonnell Douglas MD-11F

A 1930 Fleet Model 2 With A Connection To Pearl Harbor

The JN-4 "Jenny" is one of the most famous early aircraft designs built by Curtiss Aircraft. During World War I, thousands of Allied pilots were trained to fly using examples of the JN-4. After the war, surplus JN-4s were sold in the United States to pilots returning home from the war, who used them for flying airmail and barnstorming throughout the country during the 1920s.

FROM THE EDITOR'S DESK

Curtiss Museum, MD-11F, Fleet Model 2, 737 MAX 8-200, Vintage Metal Sand Pail

Greetings Everyone:

Welcome to the Holiday edition of "Distelfink Airlines". This is the last edition of the newsletter for 2025, and I want to take a brief moment to thank everyone who read and supported the newsletter and my aviation photojournalism efforts throughout the year. I wish all of you a safe and wonderful holiday season with your family and friends. "Distelfink Airlines" will be returning in 2026.

The featured content for this final newsletter edition of 2025 is a photo feature about the Glenn H. Curtiss Museum located in Hammondsport, New York. Glenn Curtiss was one of the nation's early experts in engine, motorcycle, and aircraft design. The museum honors the life and achievements of the man often considered Hammondsport's "favorite son". The museum is open year-round and features an excellent collection of artifacts. Additional information about the museum can be found at: glennhcurtissmuseum.org.

On November 5, 2025, an MD-11F operating as UPS Airlines Flight #2976 crashed on takeoff from the Louisville Muhammad Ali International Airport in Kentucky. The crash killed the three flight crew members from the MD-11F and an additional fourteen people on the ground. The crash has grounded the MD-11F fleets of UPS Airlines, FedEx Express, and Western Global Airlines until an investigation is completed. The "Aircraft of Special Interest" section in this edition of "Distelfink Airlines" looks at some of the MD-11's design features as the largest trijet aircraft ever built.

The "Aircraft of the National Air and Space Museum" section features the Republic P-47D-30-RA Thunderbolt in the National Air and Space Museum collection. The Thunderbolt has the distinction of being one of the best ground-attack aircraft of World War II and the most-produced fighter aircraft in American aviation history.

"One Last Thing" features a beautifully restored 1930 Fleet Model 2 biplane that has an interesting connection to the Japanese attack on Pearl Harbor. This airplane was flown during this year's National Warplane Museum's Geneseo Airshow back in July.

Finally, one of Allegiant Air's new Boeing 737 MAX 8-200 aircraft is featured in the "Aviation Sightings" section, and a vintage metal sand pail with an aviation theme is featured in the "Aviation Memorabilia" section.

Thank you again for supporting my aviation photojournalism efforts and "Distelfink Airlines" this year. Please feel free to share the newsletter with whoever you wish and invite them to join the newsletter's official social media pages listed below.

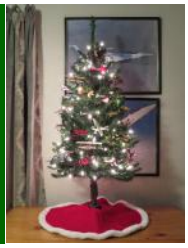
Regards,

-Corey

Merry Christmas!

&

Happy New Year!



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What's Inside:

Boeing 737 MAX 8-200

A Boeing 737 MAX 8-200 operated by Allegiant Air arrives at the Lehigh Valley International Airport after an early morning flight from Fort Lauderdale, Florida. Allegiant Air operates 12 MAX 8-200s as part of its fleet, which also includes Airbus A319 and A320 aircraft. The MAX 8-200 is a variant of the MAX 8 featuring a high-density cabin layout that accommodates up to 200 passengers. Allegiant Air's MAX 8-200s have an interior configuration with seating for 190 passengers.

The Boeing 737 MAX 8 is a variant of the Boeing 737 MAX family of narrow-body, twin-engine airliners developed by Boeing Commercial Airplanes as the fourth generation of the Boeing 737. The 737 MAX series includes four main variants: the MAX 7, MAX 8, MAX 9, and MAX 10, each with longer fuselage lengths and increased seating capacity. Boeing has also developed a high-density version, the MAX 8-200, for budget airlines such as Ryanair. The 737 MAX series typically seats 138 to 204 passengers in a two-class configuration and has a range of 3,300 to 3,850 nautical miles (6,110 to 7,130 km; 3,800 to 4,430 mi). Its primary competitor is the Airbus A320neo family.

The development of the 737 MAX began when Boeing officials decided to invest in a re-engined and aerodynamically improved variant of the 737 Next Generation series when the Airbus A320neo received record orders in 2011. The 737 MAX introduced more efficient CFM International LEAP turbofan engines and aerodynamic improvements, such as a revised tailcone design and split-tip winglets. To maintain type commonality and simplify pilot training, the 737 MAX flight deck was largely similar in design and layout to the previous 737 Next Generation series. The Boeing 737 MAX was introduced into service with Malindo Air in 2017.

Two fatal accidents, Lion Air Flight 610 in October 2018 and Ethiopian Airlines Flight 302 in March 2019, led to a global grounding of the 737 MAX fleet. In both crashes, the cause was traced to the Maneuvering Characteristics Augmentation System (MCAS), which automatically activated due to faulty angle-of-attack sensor data. The crashes and subsequent investigations severely damaged Boeing's reputation. Fines, lawsuits, and canceled orders cost the manufacturer billions in financial losses. The 737 MAX series returned to service in 2020 following modifications to its flight control software system and the implementation of revised pilot training procedures. As of October 2025, Boeing has delivered 2,044 737 MAX aircraft and has orders for an additional 4,770 examples on its books. The 737 MAX 8 is currently the most widely ordered variant.

This 737 MAX is a MAX-8-200 variant operated by Allegiant Air, which has 12 MAX-8-200s in its fleet. The aircraft was photographed on approach to Lehigh Valley International Airport in Allentown, Pennsylvania.


allegiant


allegiant

Vintage Aviation-Themed Lithographed Metal Sand Pail

Metal sand pails were a popular children's toy for seaside vacations from the 1880s until the 1960s. Lithographed sand pails featured imagery from a variety of themes, including cartoon characters, animals, storybook characters, fish and sea life, and forms of transportation. This lithographed vintage sand pail dates from the early 1930s and features an image of several different types of aircraft flying over New York Harbor and the Statue of Liberty.

For many people, the sight of a vintage metal sand pail evokes childhood memories of a summer at the shore of a beach or lake vacationing with parents and family members. When seaside vacationing gained popularity in the United States, sand pails became popular beach toys with both boys and girls. Early sand pails were imported from Europe until the 1880s, when American manufacturers began producing their own. Companies in the United States that made metal sand pails included the Ohio Art Company, T. Bros, Wolverine, Morton E. Converse & Sons, J. Chein & Co., T. Cohn Incorporated, and the U.S. Toy Metal Manufacturing Company. Some manufacturers also produced metal pails for companies to fill with goodies, such as taffy, to sell as advertising items. The heyday for metal sand pails was from the 1930s to the 1960s, when seaside vacations rose in popularity as mass transportation made it easier for people to visit beaches. The introduction of plastic sand pails in the 1970s, which did not rust and were less expensive to manufacture, ended production of metal sand pails in the United States.

Initially, the designs on metal sand pails were embossed, stenciled, and hand-painted. When the process of producing lithograph images was perfected in the 1880s, many metal sand pails were manufactured with detailed and colorful lithograph images featuring a variety of themes. Popular themes on metal sand pails included teddy bears, cartoon characters, patriotic themes, storybook characters, farm animals, fish and sea life, forms of transportation, and circus themes. Several of these metal sand pails were sold with small child-size tools, such as a shovel for digging in the sand at the beach. These tools often featured the same color scheme or lithograph image that was on the pail. Unfortunately, playwear and exposure to sand and saltwater caused many metal sand pails to rust, get dented, or fall apart. Today, surviving examples of lithographed sand pails in excellent condition are highly collectible as antiques.

This lithographed metal sand pail probably dates from the early 1930s. The pail has an engaging lithograph illustration featuring a beach near New York Harbor and the Statue of Liberty. In the sky above the harbor are several airplanes, the German airship *Graf Zeppelin*, and a balloon and parachutist above the water. One of the airplanes featured in the lithograph is the *Spirit of St. Louis*, which Charles Lindbergh flew solo, nonstop across the Atlantic Ocean in 1927. The pail's incredibly detailed lithograph captures the sense of curiosity the general public had in aircraft and aviation during the 1920s and early 1930s and is an excellent piece of vintage aviation memorabilia.

The highlight of the pail is the beautiful lithograph featuring a variety of aircraft flying over New York Harbor near the Statue of Liberty. Notable aircraft in the scene include the German airship Graf Zeppelin *and the* Spirit of St. Louis*, the airplane Charles Lindbergh flew across the Atlantic nonstop and alone in 1927.*

This vintage sand pail contains two smaller lithograph images on its sides where the handle attaches. One image features fairies, and the other, shown here, features sea life. This vintage sand pail is in good condition, but has some minor issues, including color fading and some rust on the inside of the pail.

Corgi The Wright Flyer 100 Years of Flight Diorama Set

In 2003, Corgi produced this excellent 1/32 scale Wright Flyer die-cast and plastic model in cooperation with the cable television network The History Channel to commemorate the 100th Anniversary of the Wright brothers' first flight at Kitty Hawk, North Carolina. The model featured additional accessories such as figures of Orville and Wilbur Wright so it could be displayed in a diorama recreating the historic first flight.

The Wright Flyer (also known as the Flyer 1 or the 1903 Flyer) is one of the most famous aircraft in aviation history. On December 17, 1903, the Wright Flyer made the first sustained flight by a manned, heavier-than-air powered and controlled aircraft. Invented and flown by brothers Orville and Wilbur Wright, the Wright Flyer marked the beginning of the pioneer era of aviation.

The Wright Flyer's design was based on gliders built and tested by the Wright brothers between 1900 and 1902. The last glider built, the 1902 Glider, led directly to the design of the Wright Flyer. The Wrights built the aircraft in 1903 using spruce for straight members of the airframe and ash wood for curved components. The wings were designed with a 1-in-20 camber. The fabric used to cover the aircraft was 100% cotton muslin called "Pride of the West", and was regularly used in the manufacturing of women's underwear.

One of the challenges facing the Wright brothers during the design of the Wright Flyer was finding a suitable engine. Initially, the Wrights planned to use an automobile engine to power the Wright Flyer, but most were considered too heavy and unreliable. Eventually, the Wrights turned to one of their employees, Charles Taylor, to build an engine for the airplane from scratch. The lightweight engine, constructed from aluminum and cast iron, weighed only 180 pounds (82 kg) and produced 12 horsepower. The one-gallon (3.8 L) fuel tank was suspended from one of the wing struts, with fuel being fed to the engine by gravity down a tube. The engine drove a sprocket chain drive, borrowed from bicycle technology, which turned the propellers.

The two 8.5-foot (2.6 m) propellers were handmade from three laminations of spruce, with the tips covered with duck canvas. The propellers were connected to the engine by chains manufactured by the Indianapolis Chain Company. A sprocket gear reduction system was used to slow the rotation of the propeller blades, as Wilbur Wright believed two slow-turning propellers produced greater thrust than one propeller turning faster. To reduce the effect of propeller torque on aircraft handling, one drive chain was crossed over the other, so the propellers rotated in opposite directions.

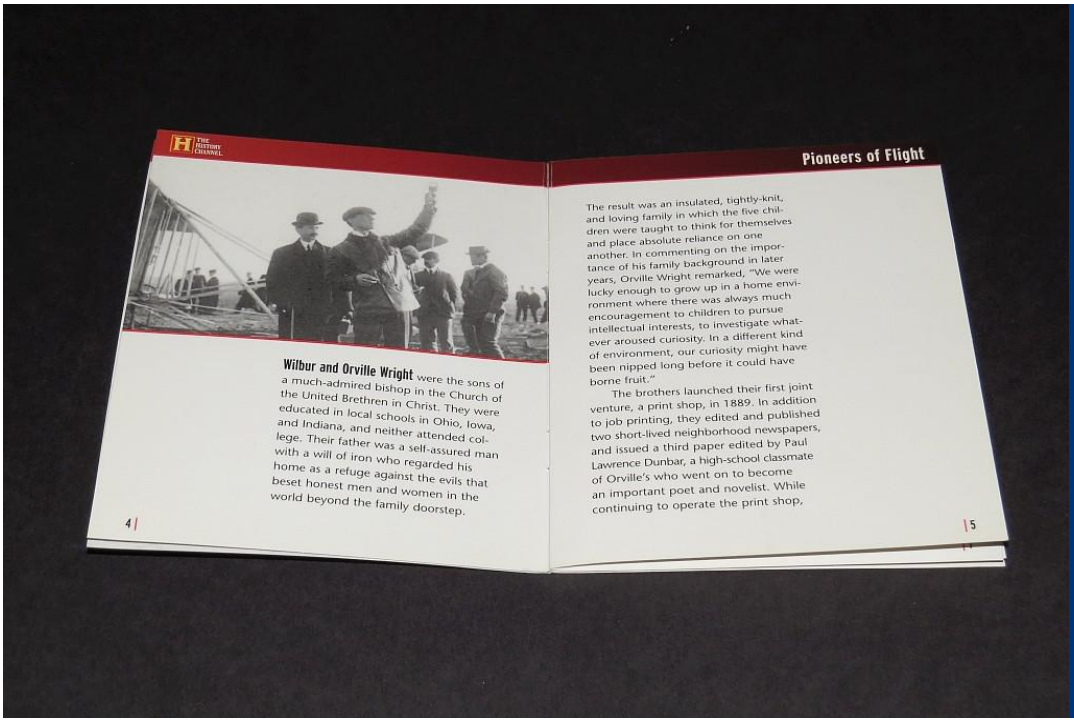
When completed, the Wright Flyer ended up being a canard biplane, with a double elevator in front and a smaller, rear double rudder. The airplane had a wingspan of 40 feet 4 inches (12.29 m) and a length of 21 feet 1 inch (6.43 m). The right wing was 4 inches (10 cm) longer than the left wing to offset the weight of the engine, which was 30 to 40 pounds heavier (14 to 18 kg) than that of Orville or Wilbur. Empty, the Wright Flyer weighed just 605 pounds (274kg).

The Wright Flyer's flight controls were similar to those used on their earlier gliders. The pilot flew lying on his stomach on the lower wing. The pilot lay left of the center of the aircraft while the engine was mounted to the right of the center. Flight control was accomplished by moving a hip cradle in the direction the pilot wanted to fly. The cradle pulled wires to warp the wings and simultaneously turn the rudder. The pilot operated the elevator lever with his left hand.

To launch the Wright Flyer, the Wright brothers built their own "runway". The 60-foot (18 m) track was built from 2x4s. The Wright Flyer's skids rested on a launching dolly, consisting of a 6-foot (1.8 m) plank and a wheeled section. The two tandem ball bearing wheels were made from bicycle hubs. A restraining wire held the airplane in place with its engine running and propellers turning until the pilot was ready to be released. Initially, the engine was started using dry batteries. The Wright brothers later switched to a magneto purchased from the Dayton Electric Company. The Wright Flyer had only three flight instruments: a Richard hand anemometer to record distance traveled, a stopwatch to record flight time, and a Veeder engine revolution recorder, which measured the number of propeller turns.

The Wright brothers completed assembly of the Wright Flyer when they returned to Kitty Hawk in 1903. While testing the engine on the Wright Flyer and completing assembly, they practiced on their 1902 Glider from the previous season. On December 14, 1903, the Wright brothers felt ready for their first attempt at powered flight. With the help of the men from the nearby life-saving station, the Wright Flyer and its launching rail were hauled to a large nearby sand dune, Big Kill Devil Hill, for an attempt at a gravity-assisted takeoff. By virtue of a coin toss, Wilbur earned the first attempt to try to fly the aircraft. The airplane left the rail, but Wilbur pulled up too sharply, and the Wright Flyer stalled and came down in a hard landing, sustaining minor damage. The flight had covered 105 feet (32 m) in 3½ seconds.

Unlike most Corgi die-cast model aircraft, the 1/32 scale Wright Flyer 100 Years of Flight diorama set included several pieces. In addition to the excellent model of the Wright Flyer, the set also included a metal figure of Orville Wright that fits onto the aircraft, a plastic figure of Wilbur Wright, two pieces of launching track, the launching dolly, a replica of the wooden stool visible in photographs holding the wing of the Wright Flyer off the ground, and a historical booklet.



One of the highlights of Corgi's 1/32 scale Wright Flyer 100 Years of Flight diorama set is the special booklet that was included with the model. The 12-page booklet produced by The History Channel features a short biography of the Wright brothers, a narrative about their experiments with gliders that led to the building of the Wright Flyer, and historical pictures of the brothers and their early gliders and aircraft.

After repairing the Wright Flyer from the abortive first attempt, the Wright brothers were ready to try again on December 17. On this day, the wind speed averaged over 20 miles per hour (32 km/h), so the brothers laid the launching rail near their camp, facing into the wind. This time, the wind, instead of an inclined launch, would generate enough airspeed for takeoff. With Orville at the controls, the Wright Flyer completed its first successful, controlled flight, lasting 12 seconds and covering 120 feet (37 m).

Taking turns, the brothers made four other brief, low-altitude flights that day, with the last flight by Wilbur covering 852 feet (260 m) in 59 seconds. No turns were attempted on these flights, as the Wright Flyer proved difficult to control. On the last flight by Wilbur, a hard landing broke one of the Wright Flyer's elevator supports. Soon after the landing, a gust of wind picked up the Wright Flyer and tumbled it end over end several times, damaging it to such an extent that it never flew again. Today, the Wright Flyer is on display in the National Air and Space Museum's flagship building located on the National Mall in Washington, D.C.

To commemorate the 100th Anniversary of the First Flight, the die-cast model and toy manufacturer Corgi partnered with the cable television network, The History Channel, to produce this 1/32-scale, limited-edition diorama set featuring the Wright Flyer. In addition to a model of the Wright Flyer, the set also included figures of Orville and Wilbur Wright, a replica of the track the Wright brothers used to launch the airplane, the wooden stool used to hold the wing off the ground before launch, and a booklet featuring historical photographs and information about the

Corgi did an excellent job replicating the Wright Flyer in 1/32 scale. Unlike most of Corgi's die-cast model aircraft, the Wright Flyer is primarily made of plastic, so the thin wings of the original Wright Flyer could be accurately replicated on the model. The plastic wings on the model also feature textured surfaces to simulate fabric and stitching found on the original aircraft. Corgi's model Wright Flyer also features several moving parts, including rotating propellers and movable rudders and elevators. Finally, Corgi's figurines of Orville and Wilbur Wright are well-detailed and cast in poses simulating their positions during the first flight. Orville is molded in a lying-down position and fits on the Flyer model. Wilbur is molded in a running position, as if he were guiding the Wright Flyer on the launching rail.

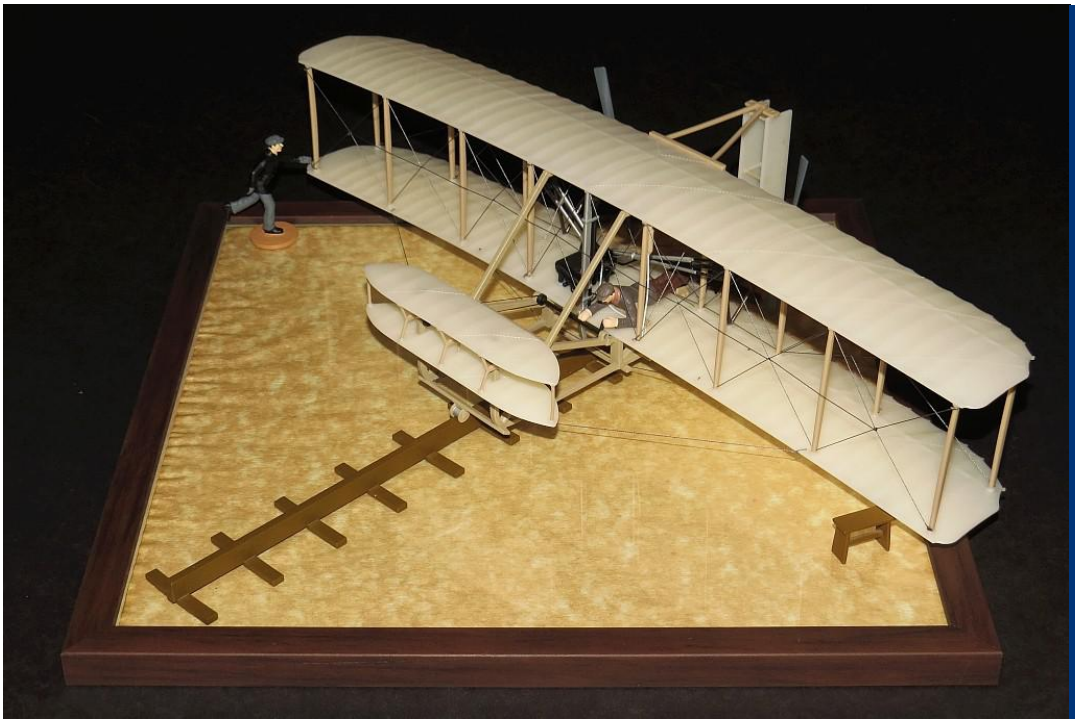
Another highlight of this model and diorama set is the commemorative book produced by The History Channel. The compact-sized booklet features excellent information about the Wright brothers for those who may not be well-versed in the history surrounding the model. Several excellent black-and-white photographs are also featured in the booklet.

Corgi and The History Channel did a fantastic job with its Wright Flyer diorama set, but some areas of the set could have been improved. One of the unusual aspects of this diorama set is the figures of Orville and Wilbur Wright. The Orville Wright figure is cast in metal, but the Wilbur Wright figure was molded from plastic. The difference in the materials used in the figures makes the Wilbur Wright figure lighter in weight and easier to knock down on a shelf or desk when the diorama is displayed. The diorama set is also missing some items visible in historical photos of the Wright Flyer's first flight. Photographs show a shovel and an oil can present on the sand next to the Wright Flyer. Unlike the wooden bench, these items were not included in the diorama set as accessory pieces, which is disappointing.

Another issue with this diorama set is that the attachment points to mount the Wright Flyer to its takeoff dolly are very small. It takes considerable time to line up the small pegs on the dolly with the holes in the airframe of the Wright Flyer model. The plastic launching rail pieces are made of thin plastic and prone to warping, sometimes not lying flat on a surface.

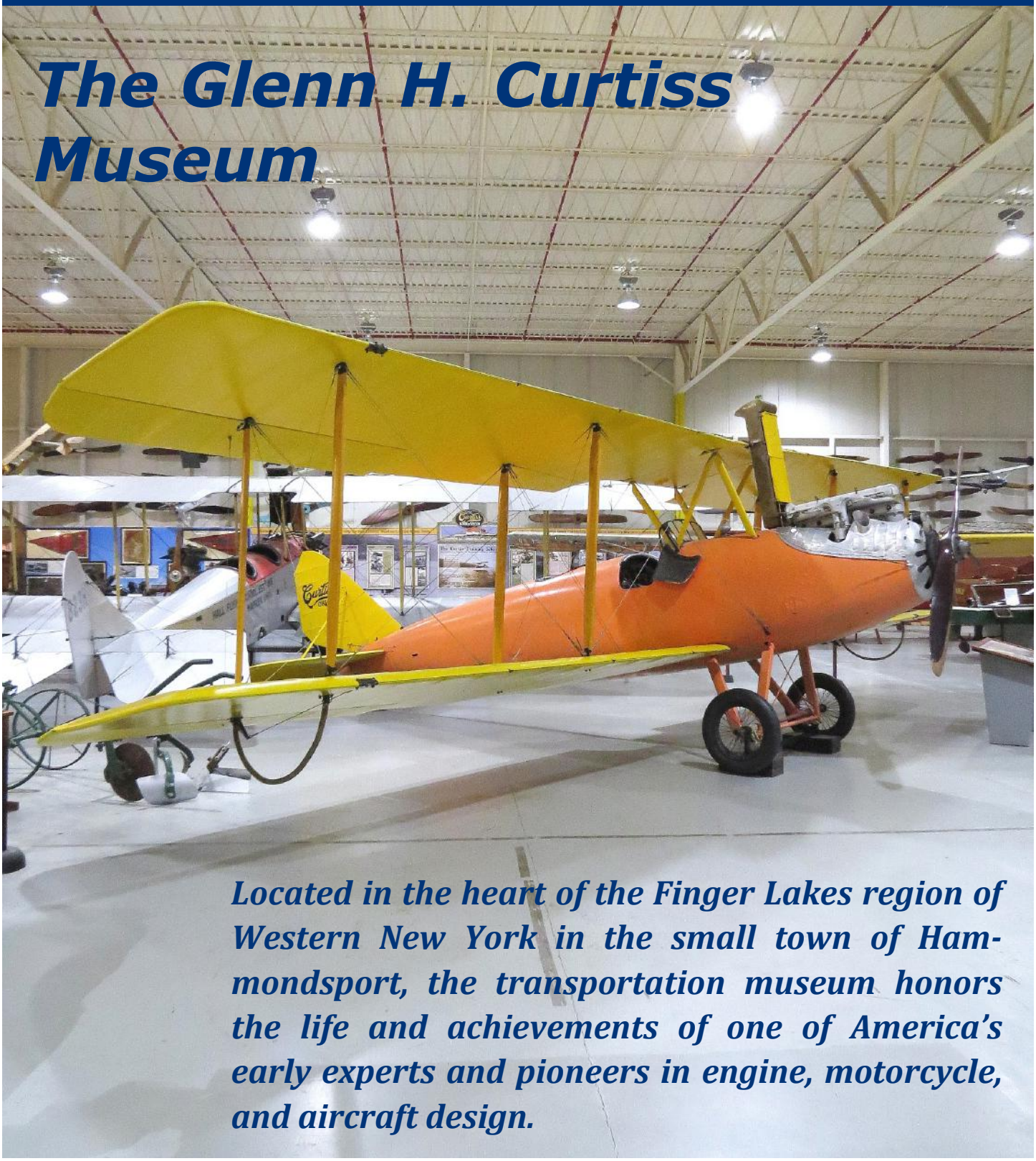
Finally, a display base or stand would have been a great addition to this set. Even a simple cardboard base with a sand terrain pattern would have made this diorama set stand out much more in a display. A display stand would have allowed the collectors to display the Wright Flyer model itself without the diorama accessories. A display stand would have been beneficial for collectors with space limitations in their model airplane collections.

The Corgi/History Channel 100 Years Of Flight Wright Flyer diorama set can still be found for reasonable prices on the secondary market. The sets were overproduced, and as a result, mint-in-the-box examples can be found for less than retail price in auction listings on eBay and Etsy. The set is an excellent recreation in miniature form of one of the most significant moments in human history, highlighted by a well-detailed scale replica of one of the most famous aircraft from the pioneer era of aviation. The set is an excellent addition to a model airplane collection of any aviation enthusiast.



When assembled, Corgi's 1/32 Wright Flyer 100 Years of Flight diorama set makes an impressive display piece on a desk or bookshelf. Although a bit on the large size at 1/32 scale, Corgi's model of the Wright Flyer is an excellent replica of one of, if not the most, important aircraft in aviation history. The model is a wonderful tribute to the Wright brothers and their contributions to the field of aviation.

The Glenn H. Curtiss Museum



Located in the heart of the Finger Lakes region of Western New York in the small town of Hammondsport, the transportation museum honors the life and achievements of one of America's early experts and pioneers in engine, motorcycle, and aircraft design.

A Curtiss Oriole on display inside the Glenn H. Curtiss Museum located in Hammondsport, New York. Introduced in 1919 and designated the Model 17 by Curtiss Aircraft, the Oriole was built as a three-seat, general-purpose biplane. The Oriole featured a self-starter, a tall, thin radiator for engine cooling, and was powered by either a Curtiss OX-5 or Curtiss K-6 engine.

The Glenn H. Curtiss Museum features a diverse collection of aircraft, automobiles, and motorcycles on display. In this photo, I am kneeling next to a replica of a Royal Aircraft Factory S.E.5a. The S.E.5a was one of the best British fighter aircraft of World War I and was well-liked by its pilots for being fast, well-armed, rugged, and easy to fly.

Located in the scenic Finger Lakes region of Western New York in the small town of Hammondsport, the Glenn H. Curtiss Museum honors the achievements of the American inventor and engineer, who was one of the nation's early experts and pioneers in engine, motorcycle, and aircraft design. In addition to honoring the man often referred to as "Hammondsport's Favorite Son", the museum also features exhibits related to the local history of the region.

Founded by Hammondsport resident Otto Kohl in 1962, the Glenn H. Curtiss Museum was initially located inside an old high school building in Hammondsport. As its collection of artifacts grew, the museum required more space for exhibit displays and needed room for future expansion. The museum relocated to its current home, a former winery, in 1992. This new location is near where Glenn H. Curtiss tested many of his new aircraft designs. The new location also provided museum curators with a building to use as a workshop, where artifacts and exhibits can be restored for public display inside the museum.

Currently, the Glenn H. Curtiss Museum displays over 20 authentic and reproduction aircraft. Many of the reproduction aircraft on display have been built by museum staff and volunteers working from original factory drawings and using original parts where possible. The museum also features a large collection of vintage automobiles and motorcycles, as well as hundreds of additional artifacts, including propellers, aero engines, photographs, models, and awards. The museum also features a 75-seat theater, where museum visitors can view an hour-long film that chronicles the life and achievements of Glenn H. Curtiss.

This feature highlights some of my photographs taken of the most significant aircraft, motorcycles, and other artifacts on display at the Glenn H. Curtiss Museum during a visit in July 2025. If you are ever traveling in the Finger Lakes region of Western New York, a visit to the Glenn H. Curtiss Museum is highly recommended. Additional information for planning a visit to the Glenn H. Curtiss Museum, including its operating hours and admission costs, is available at: glennhcurtissmuseum.org.

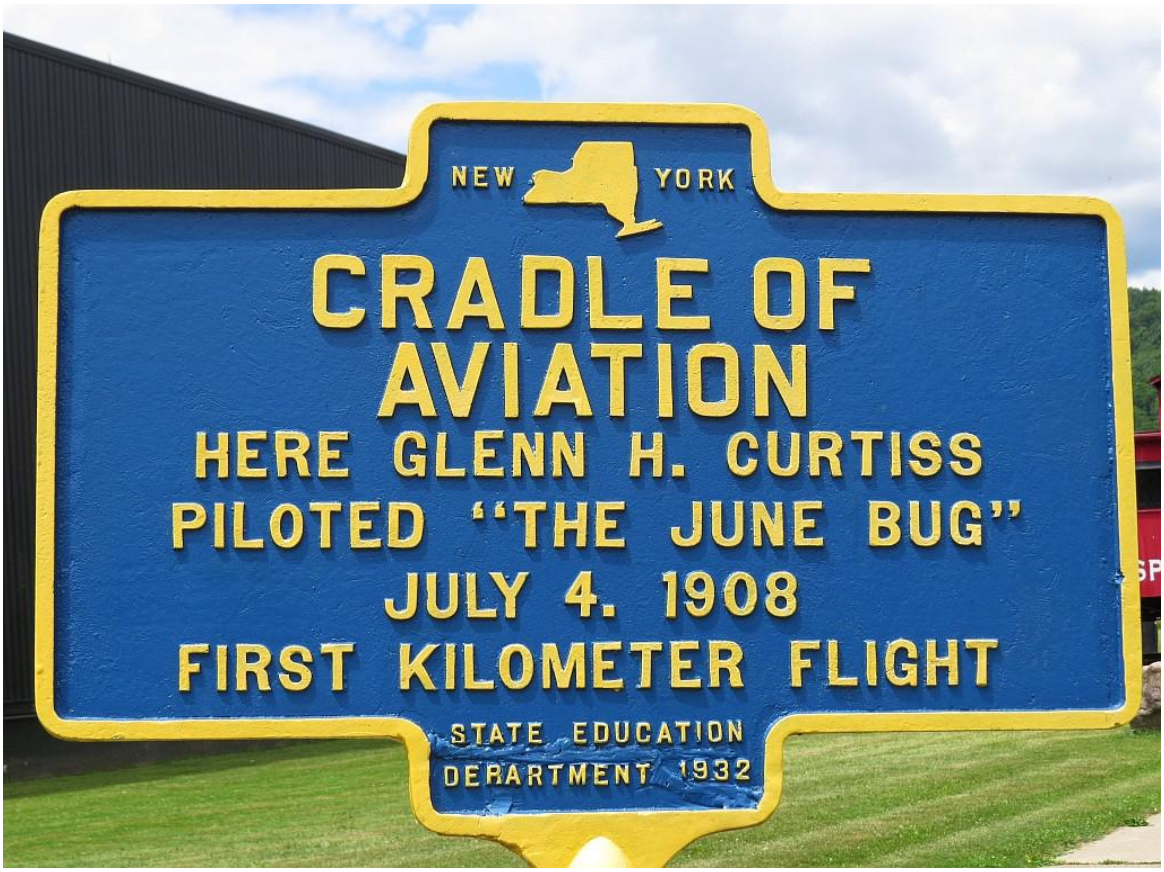
The Glenn H. Curtiss Museum is located just outside the town of Hammondsport in the Finger Lakes region of Western New York. Visitors to the museum are greeted at the entrance by this large sign and a Curtiss C-46 Commando military transport aircraft parked next to the museum's entrance. The C-46 was primarily used for hauling cargo during World War II, and was especially useful in the China-Burma-India theater, where it transported supplies from bases in India over the Himalayas to troops in China.

Despite its ability to handle adverse climate conditions and transport large cargo loads, the C-46 Commando was a maintenance nightmare throughout its military career. Several C-46s were lost in airborne explosions, traced to fuel leaks from a hastily designed fuel system coming into contact with electrical components. Curtiss-Wright made a total of 721 modifications during the C-46's production run to correct design flaws with the aircraft. Nearly 3,200 C-46s were built during World War II.

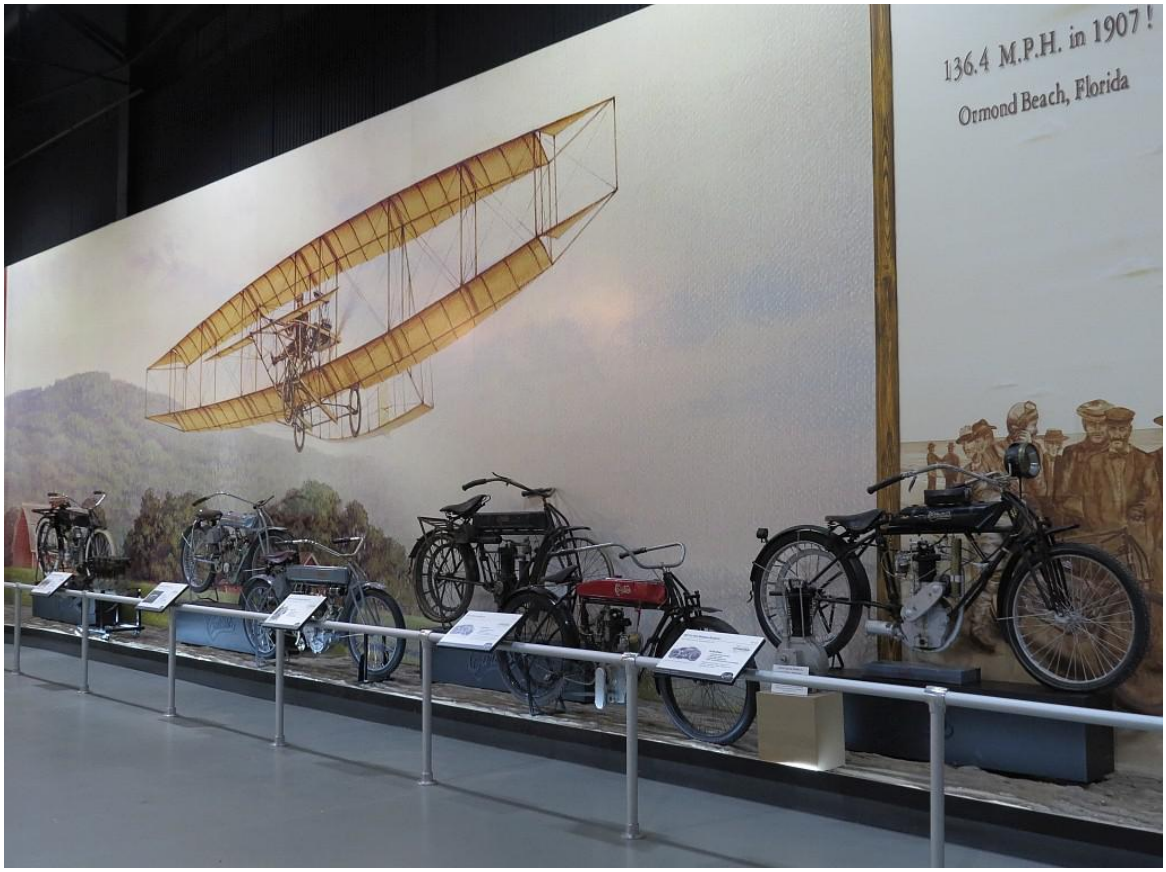
The Glenn H. Curtiss Museum is in an unassuming building that was once home to a former winery. The museum moved to this location in 1992, seeking more space for its artifacts and display exhibits. The new building also featured additional space for a restoration workshop and improved guest amenities, including a gift shop and a movie theater. In addition to being open as a museum, the Glenn H. Curtiss Museum is also available to host events, such as weddings, dinners, and corporate functions.

The current location of the Glenn H. Curtiss Museum is close to the site where Glenn Curtiss tested many of his early airplane designs. The New York State Education Department has erected two historical markers on the property commemorating the achievements of Glenn Curtiss. This marker, located near the museum's parking lot and placed on the site in 1957, notes that Glenn H. Curtiss was born in Hammondsport in 1878 and was an early builder of motorcycle and aircraft engines.

The Finger Lakes region of Western New York is often referred to as the "Cradle of Aviation" because of the area's significance in aviation history. The sport of soaring in the United States became associated with the nearby town of Elmira, which is now home to the National Soaring Museum. At the site of the museum, as this historical marker indicates, Glenn H. Curtiss flew an airplane called the "June Bug" on the first one-kilometer flight in front of a crowd on July 4, 1908.



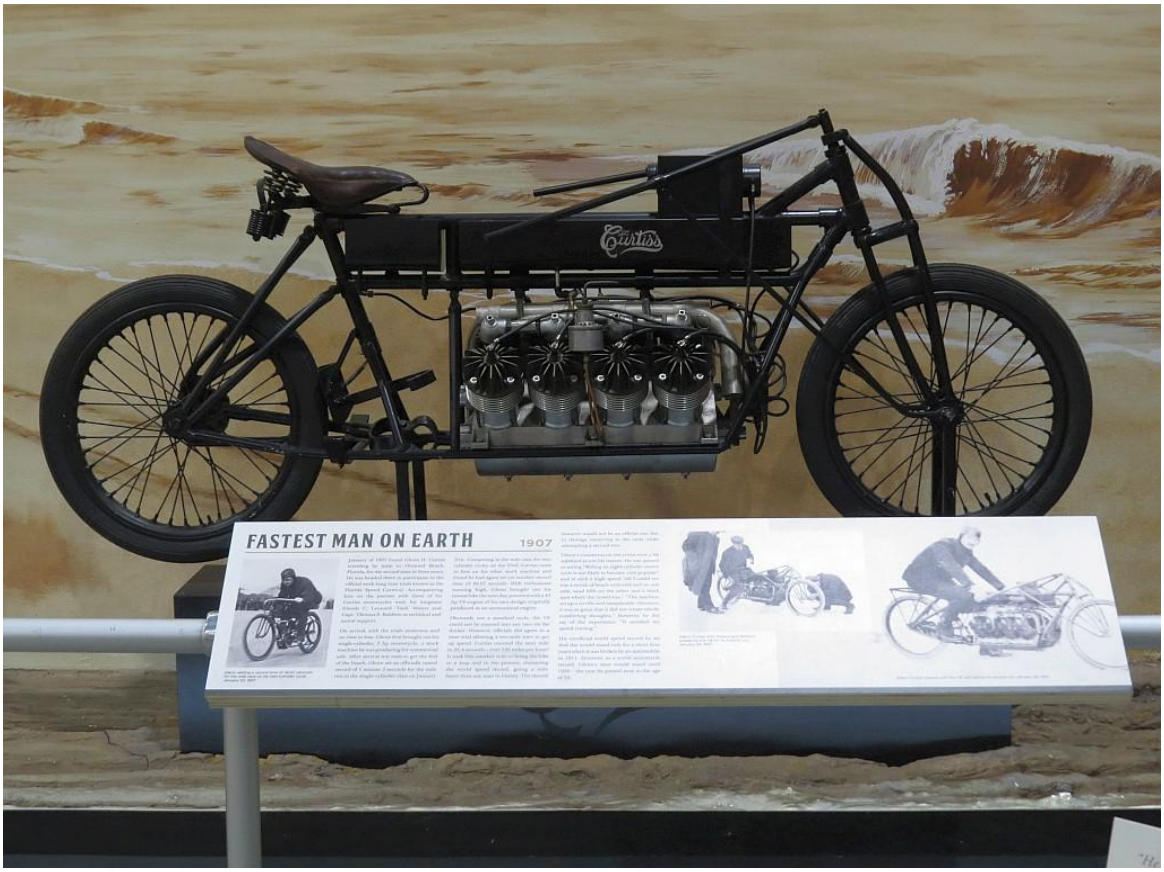
This sculpture of the AEA "June Bug" is displayed on a pole next to the main entrance of the Glenn H. Curtiss Museum. The Aerial Experiment Association (AEA) was a research group founded in 1907 and led by Dr. Alexander Graham Bell. The AEA produced several pioneer aircraft in quick succession. The "June Bug" was the third aircraft built by the group and was designed by Glenn H. Curtiss. On July 4, 1908, Curtiss piloted the "June Bug" on the first one-kilometer flight in front of a crowd.

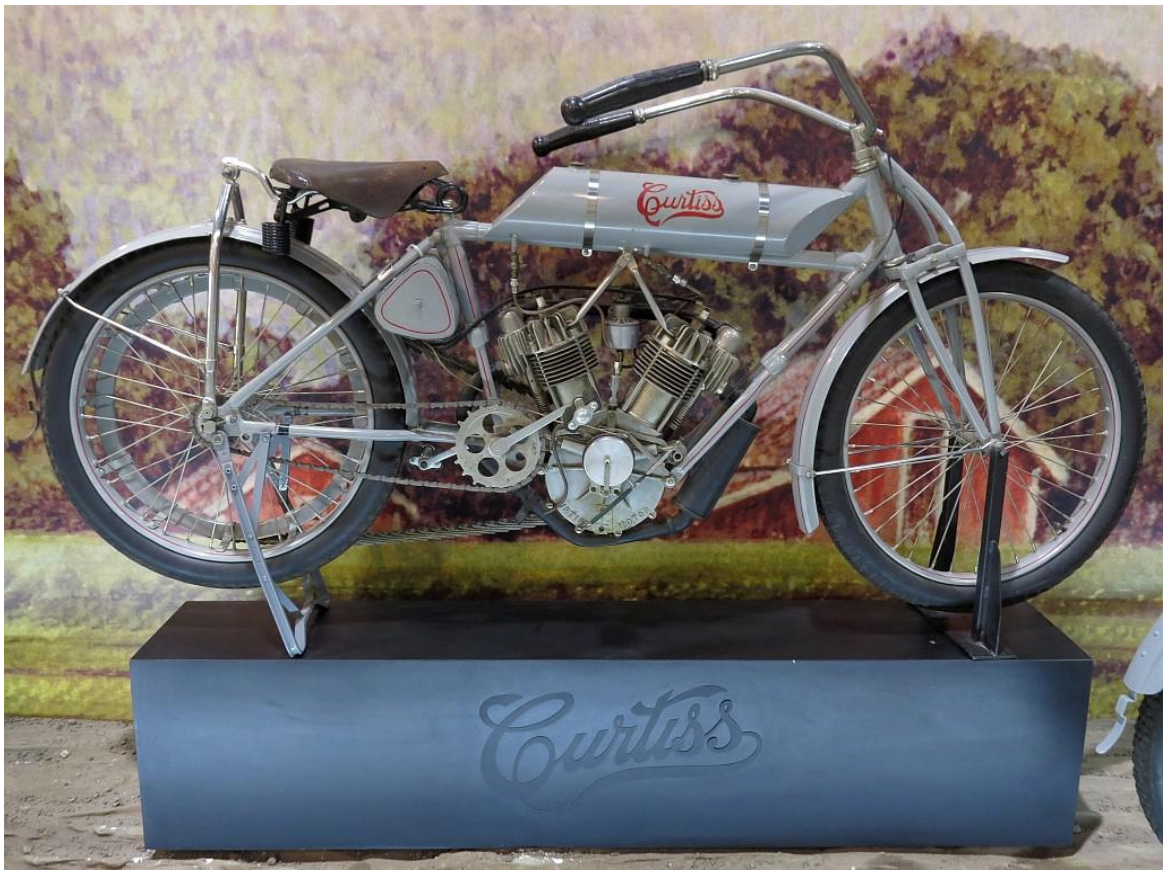


Initially, the transportation interests of Glenn H. Curtiss were focused on motorcycles. During the early 1900s, Curtiss designed and built several different types of motorcycles and engines to power them. Curtiss quickly became regarded as an expert in the design of motorcycles and the engines used to power them. The Glenn H. Curtiss Museum has a large collection of Curtiss motorcycles on display, some are owned by the museum and others are on loan from motorcycle collectors worldwide.

Glenn H. Curtiss was responsible for several innovations in the design of early motorcycles. One such innovation was the introduction of sidecars for passengers. These early sidecars were simply a wicker-style chair attached to a frame fitted to the motorcycle. Different style seats were installed according to customer requests. Curtiss first offered the sidecar on his motorcycles in 1905, with the option remaining available until 1912. This sidecar is attached to a 1909 Curtiss Single model motorcycle.

Glenn H. Curtiss was also involved in designing motorcycles for racing and entered them in numerous racing events and speed contests. In 1907, Curtiss gained worldwide fame when he set an unofficial world speed record at Ormond Beach, Florida, with this motorcycle featuring a 40-horsepower V-8 engine of his own design. Curtiss covered a measured mile in 26.4 seconds and reached a speed of over 136 miles per hour (219 km/h). This speed record for motorcycles would stand until 1930.





Curtiss continued to experiment with motorcycles and engines throughout the early 1900s, using different types of frames, engines, spark plugs, lubricants, and other components in his motorcycle designs. The 1909 Curtiss Wehman V-Twin Motorcycle featured a special frame designed by Curtiss employee Henry J. Wehman and a two-cylinder, air-cooled engine that produced a mere seven horsepower. The Wehman V-Twin Motorcycle was sold by Curtiss from 1905 to 1912.

This small display inside the Glenn H. Curtiss Museum showcases what the display case in an early motorcycle shop might have looked like for owners looking to purchase products. In addition to designing and building motorcycles and motorcycle engines, Curtiss also designed components for his engines to improve their performance, including carburetors and spark plugs. Additional items featured in this shop display include riding helmets, magnetos, batteries, and fuels and lubricants.

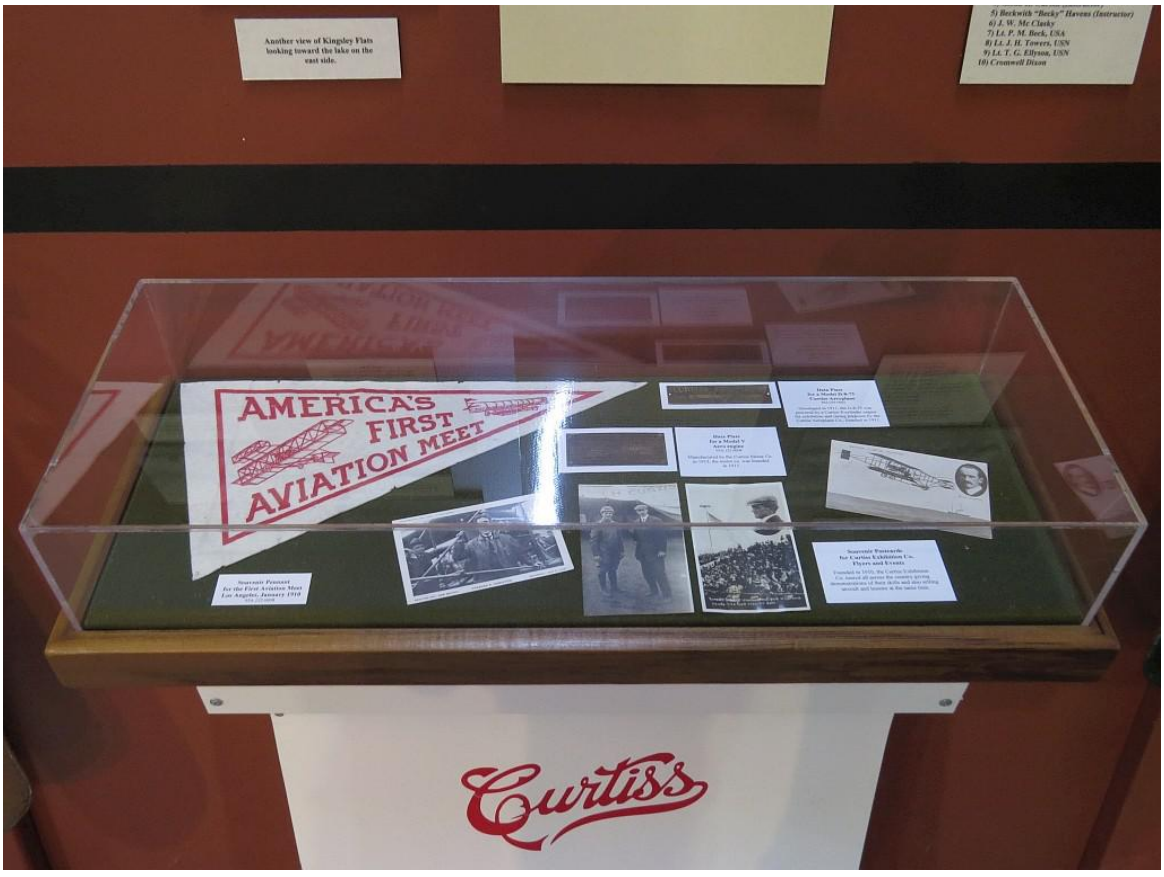
In addition to motorcycles designed by Glenn H. Curtiss, the museum also features a small collection of motorcycles from other manufacturers on display that were prominent in the Finger Lakes region of Western New York. This beautiful exhibit within the museum features a façade of an early 1900s bicycle/ motorcycle shop. Inside the display windows of the exhibit are examples of motorcycles built by Greyhound and Erie. Both manufacturers were active in the region in the early 1900s.

Glenn H. Curtiss also had a fascination with automobiles. He held franchises for Buick, Ford, Thayer-Miller Touring Car Co., and Stoddard Dayton Motorcar Co. The first automobile Curtiss acted as an agent for was the Orient Motor Buckboard in 1903; a 1904 model of the car is pictured here. Not having space at his shop for a showroom, Curtiss purchased one of the automobiles and drove it to demonstrate it to customers, who could then order the car through a mail-order catalog in his shop.

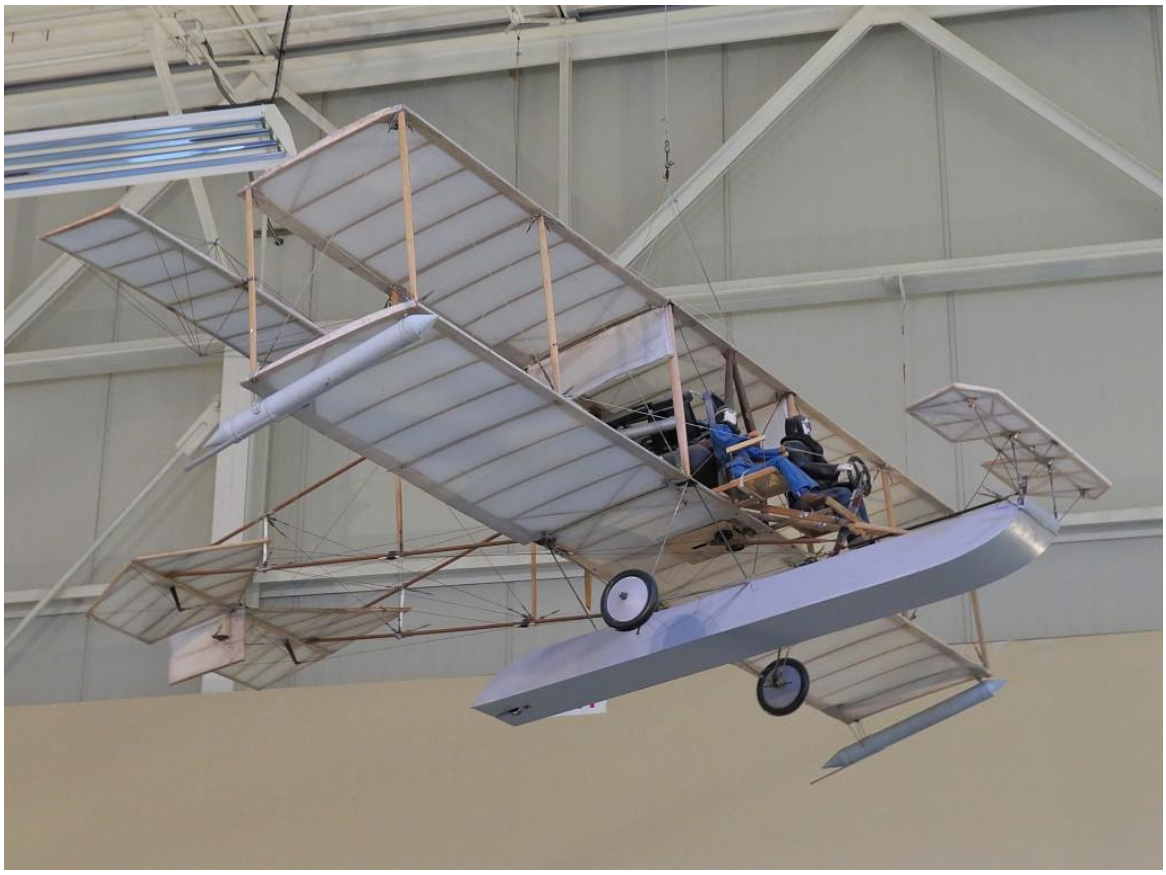
The Glenn H. Curtiss Museum features an exhibit dedicated to the 1908 "June Bug", the airplane designed and flown by Curtiss when he was working with the Aerial Experiment Association (AEA). The AEA worked under the leadership of Dr. Alexander Graham Bell to tackle the problems of aviation. Glenn H. Curtiss was recruited into the group after being recognized as an expert on gasoline engines. This large model of the 1908 "June Bug" hangs from the ceiling of the museum above the exhibit.

The highlight of the "June Bug" exhibit inside the Glenn H. Curtiss Museum is a full-scale replica of the original aircraft that is on display. The AEA and the aircraft they designed, such as the "June Bug", introduced several technical innovations to aviation, including wingtip ailerons for control and tricycle landing gear. Unfortunately, the original "June Bug" was lost in a crash in 1909 after being modified as a floatplane to take off from water. This replica was built and flown by Mercury Aircraft in 1976.

In addition to automobiles, motorcycles, and aircraft, the Glenn H. Curtiss Museum features hundreds of smaller artifacts in display cases throughout the building. These artifacts include medals, small aircraft parts such as engine components, photographs, postcards, pennants, and paper items like event programs and pamphlets. This display case features a pennant and postcards from the first aviation meet held in the United States, which featured flight demonstrations of Curtiss aircraft.



In 1911, Glenn H. Curtiss designed a revolutionary aircraft, the A-1 Triad. The Triad had the capability of operating on land, sea, and in the air, which is how it got its name. Curtiss successfully demonstrated the Triad at North Island in San Diego, California. The Triad immediately attracted the interest of the U.S. Navy, which took possession of the aircraft after Curtiss made several modifications and refinements. The U.S. Navy eventually purchased 14 examples of the aircraft, which was designated the A-1.



A large model of the Curtiss A-1 Triad hangs from the ceiling of the Glenn H. Curtiss Museum. The A-1 Triad has the distinction of being the U.S. Navy's first aircraft. Selling the A-1 Triad to the U.S. Navy helped Curtiss develop a longstanding relationship with the military branch that lasted through World War II. In addition to being the U.S. Navy's first aircraft, the A-1 Triad was also the first successful amphibious aircraft, the first aircraft with retractable landing gear, and the first practical dual-control trainer.

Since he was located in the Finger Lakes region of Western New York, Glenn H. Curtiss took advantage of the availability of large bodies of water nearby, building several seaplanes and flying boats. Introduced in 1912, the Curtiss Model E, also known as "The Flying Fish", was the first successful flying boat built by Curtiss. A long line of similar aircraft followed. This reproduction of the Model E was built by the volunteers in the Glenn H. Curtiss Museum restoration shop and flown by the museum in 1999.

Another flying boat designed by Curtiss was the Model 18, also known as the "Seagull". The Model 18 was introduced by Curtiss in 1919 and was based on the MF flying boat, which was designed as a military training aircraft late in World War I. The "Seagull" was designed to carry three passengers and featured a hull finished in a mahogany veneer and upholstered seats in the cockpit. Engines used to power the "Seagull" included the 160-horsepower Curtiss C-6 and a 150 -horsepower Hispano -Suiza engine.

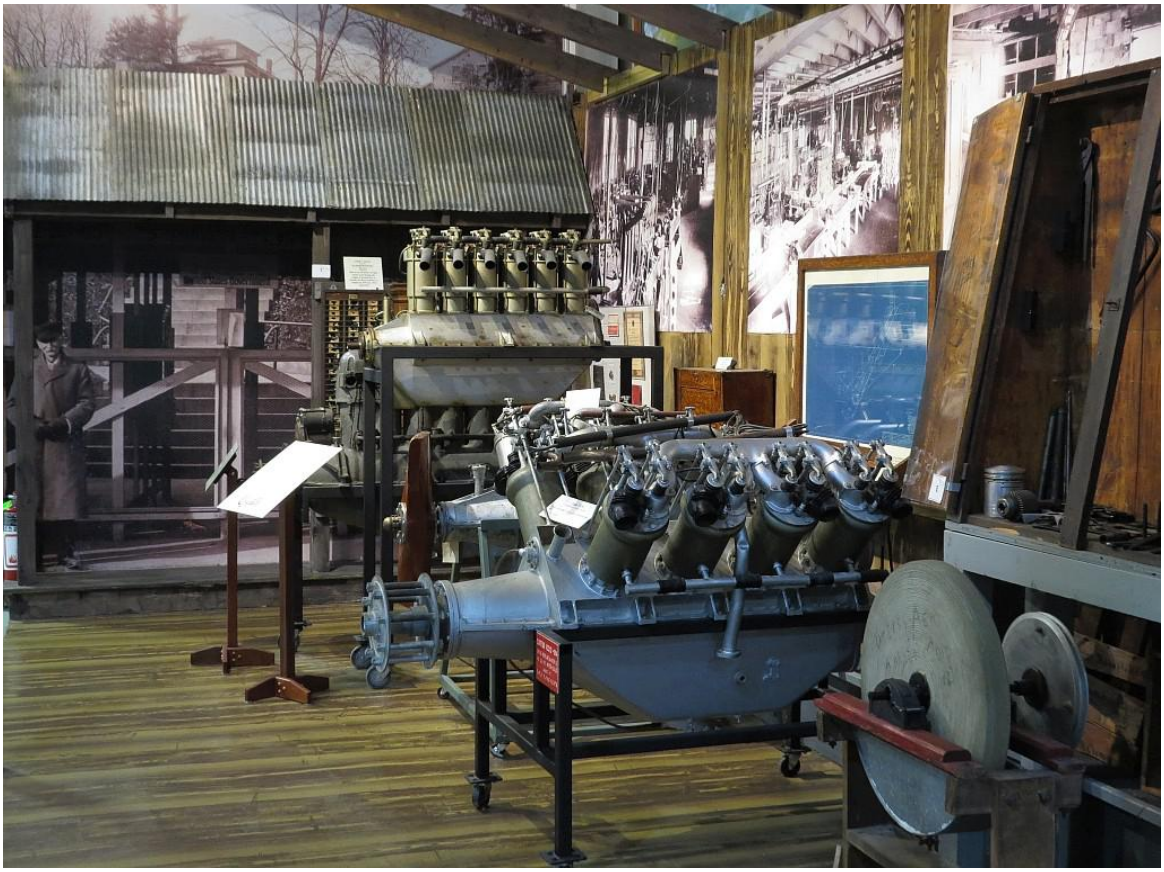
One of the most impressive aircraft displays in the Glenn H. Curtiss Museum is the replica of the "America" flying boat. The airplane was designed by Curtiss and built by the Curtiss Aeroplane Company in 1914 to attempt the first aerial transatlantic crossing by a heavier-than-air aircraft. A $50,000 prize was offered by the London Daily Mail for a successful crossing. To help fund the project, department store owner Rodman Wanamaker put up Curtiss $25,000 to begin construction of the aircraft.

The "America" was the largest flying boat of its time and the first twin-engine flying boat. British pilot Lt. John C.Porte and Curtiss mechanic George E.A. Hallet were selected to fly the "America". The "America" was painted bright red, disassembled, and shipped to St. John's, Newfoundland, Canada, for an attempt at the flight in August 1914. The outbreak of World War I canceled the effort. This replica of the "America" was constructed by museum volunteers and successfully flown in 2008.

Curtiss built large flying boats for the U.S. Navy to use as patrol aircraft during World War I, but the aircraft he and his company are most well-known for during the war is the JN-4 "Jenny". The "Jenny" was used as a training aircraft throughout the war and was responsible for training thousands of Allied pilots in the United States and Canada. The JN-4 was also used as one an aerial ambulances. The rear cockpit and upper decking of the fuselage could be removed to carry a stretcher.

The Curtiss Aeroplane and Motor Company and the U.S. Navy gained international fame in May 1919 when a crew of U.S. Navy & Coast Guard aviators flew a Curtiss NC flying boat (NC-4) across the Atlantic Ocean. The flight took 19 days to complete making numerous stops for aircraft repairs and crew rest periods. Today, the NC-4 is on display in the National Museum of Naval Aviation in Pensacola, Florida. This artwork hanging on a wall in the Glenn H. Curtiss Museum commemorates the flight.

Several exhibits at the Glenn H. Curtiss Museum are set up as immersive displays, allowing visitors experience settings similar to when Curtiss was building airplanes and engines. This exhibit is designed as an early aero engine workshop. The exhibit features several Curtiss aero engines, along with the tools and lubricants Curtiss mechanics would have used to build and service them. Curtiss was widely regarded as an expert in the design of gasoline engines for airplanes and motorcycles.



The Standard J-1 served alongside the Curtiss JN-4 "Jenny" as a military trainer during World War I. Unfortunately, the Hall-Scott engine that powered the J-1 was notoriously unreliable. As a result, far fewer J-1s were built compared to "Jenny". After the war, the J-1s many were sold as surplus to flight training schools. Several surplus J-1s were re-engined with Curtiss OX-6 engines for improved performance and reliability. This J-1 is on loan to the Glenn H. Curtiss Museum from the Henry Ford Museum.

Introduced in 1919, the Curtiss Oriole was designed as a three-seat, general-purpose, light aircraft. Unusual for the time, the Oriole featured a self-starter. The radiator for the water-cooled engine was unusually positioned in the pilot's field of view. In 1926, Admiral Richard Byrd selected a Curtiss Oriole as a second aircraft for his 1926 Arctic Expedition to serve as a rescue and aerial survey aircraft. A Curtiss Oriole was also one of the first aircraft used by Northwest Airlines when it was founded in 1926.

Glenn H. Curtiss retired from the company in his name in 1920, moving to Florida and focusing on real estate and other ventures. Curtiss remained with the company as an advisor until he died of an appendicitis in 1930. During his retirement in Florida, Curtiss designed the Aerocar, a multipurpose, fifth-wheel, fully furnished travel trailer, which generated interest in recreational vacations by road. The Great Depression and Curtiss's death in 1930 ended any hope of large-scale production.

After the retirement of Glenn H. Curtiss, the Curtiss Aeroplane & Motor Company continued to design and build aircraft. The Curtiss Robin was a high-wing monoplane introduced in 1926. The Robin was built by the Curtiss-Robertson Manufacturing Company, a company set up to manufacture the aircraft. The Robin could accommodate three passengers in its cabin, and production examples were fitted with several engine types. A small number of Robins remain airworthy today.

Similar to other aviation museums, the Glenn H. Curtiss Museum uses models to represent aircraft it does not have in its collection. The museum has several models representing Curtiss-built aircraft in its collection. The T-32 Condor II was a twin-engine biplane airliner bomber introduced in 1933. It was used as a bomber and executive transport aircraft by the U.S. Army Air Corps. Eastern Air Transport and American Airways operated Condos as airliners with luxury sleeping accommodations.

The CW-1 Junior was a light sport aircraft brought onto the market in the 1930s by Curtiss-Wright. Planned to be sold for the price of a mid-range automobile, the CW-1 Junior had two issues. The first was that its three-cylinder Szekely SR-3 engine tended to throw its cylinders, a situation worsened by the pusher configuration of the aircraft. The second issue was that the unexpected location of the propeller caused numerous accidents with people walking into it while the airplane was on the ground.

During the inter-war period, Curtiss produced several biplane fighters in small numbers for the U.S. Army Air Corps. One such design was the P-6E Hawk, shown here in model form. The P-6E Hawk was a fast and maneuverable fighter aircraft for its time, and is considered one of the most beautiful biplane fighter designs ever built. Due to the Great Depression, only 46 P-6Es were ordered by the U.S. Army Air Corps. Numerous accidents claimed at least 27 of the aircraft delivered.

In 1929, the Curtiss Aeroplane & Motor Company merged with the Wright Aeronautical Corporation, becoming Curtiss-Wright. In 1930, the Travel Air Manufacturing Company became a division of Curtiss-Wright. Travel Air produced several aircraft designs in the late 1920s and early 1930s, including the Model 2000 biplane on display in the museum. Unfortunately, due to the poor economy from the Great Depression, the Travel Air division was shut down by Curtiss-Wright in 1932.

In addition to models of Curtiss-built aircraft, the Glenn H. Curtiss Museum has other models of aircraft from all eras of aviation history displayed hanging from the ceiling. One of the more unusual models on display is this large model of a Douglas O-46 observation aircraft. The O-46 was used by the U.S. Army Air Corps in the late 1930s. When World War II began in 1939, it was realized that the O-46 was too large and heavy to operate as an observation aircraft from small runways close to the front lines.

Curtiss produced several aircraft designs that served during World War II, some being more successful than others. One of the most successful designs produced by Curtiss during World War II was the P-40 Warhawk fighter. Introduced in the late 1930s, the P-40 was one of the few modern fighters available to Allied forces in large numbers when the war began. This airplane is a ¾-scale home-built replica of a P-40E variant of the Warhawk, one of the most produced variants of the fighter.

The Lockheed P-38 Lightning was one of the most successful twin-engine fighter aircraft of World War II. The P-38 was blessed with long range, heavy armament, excellent high altitude performance, and surprisingly good maneuverability for a twin-engine fighter. The P-38 was most successful in the Pacific and the China-Burma-India theater, where combat missions were often flown at extreme range. This P-38 Lightning model is one of the many beautiful model aircraft hanging from the museum ceiling.

To fill its museum floor space, the Glenn H. Curtiss Museum also displays a large selection of antique motorcycles on display. These motorcycles are owned by collectors and enthusiasts nationwide who loan them to the museum for display for a certain length of time. This photograph shows some of the motorcycles currently on display inside the museum. A wide variety of motorcycles are on display, including early designs, military variants, and racing models from the 1960s and 1970s.

In addition to vintage motorcycles, the Glenn H. Curtiss Museum dedicates some of its floor space to a display of antique automobiles. Although some of the automobiles on display belong to the museum, many on the floor are owned by private collectors who are loaning their vehicles to the museum so they can be displayed. The vehicle's owner agrees to display the automobile for a certain period of time in the museum. Here is a row of classic automobiles on display in the museum.

The Glenn H. Curtiss Museum has a small exhibit dedicated to Mercury Aircraft. The company was established in Hammondsport in 1920 as the Mercury Corporation. The company got its start selling surplus parts for Curtiss JN-4 "Jenny" aircraft after World War I, and it always maintained a close relationship with Curtiss. In 1927, the company was renamed Mercury Aircraft and produced several of its own aircraft designs. The company also manufactured aluminum school buses in the 1940s.

In 1931, Harvey Mummert, the chief engineer of the Mercury Aircraft Corporation, designed the Mercury S-1 Racer. The S-1 Racer was raced in the 1932 Chicago Air Races, where it placed third in the Free-For-All Edelweiss Trophy Race. Mummert also flew the S-1 locally at Hammondsport and at several local air races in the 1930s. In 1980, Lawrence Wood restored the aircraft to airworthy condition and flew it once. The S-1 is on long-term loan to the Glenn H. Curtiss Museum by the Wood family.

One of the most impressive exhibits in the Glenn H. Curtiss Museum is the recreation of the office cupola that was attached to Curtiss's home in Hammondsport. The cupola served as Curtiss's office, and he spent many hours in the cupola designing the aircraft and aero engines he built. The Glenn H. Curtiss Museum staff went to extensive lengths to recreate the cupola within the museum, filling his office with historical artifacts and objects that would have been present in the 1910s and 1920s.

Visitors to the Glenn H. Curtiss Museum cannot enter the cupola itself, but the recreation of the building features a cutout. This allows museum visitors to look inside the office. The left side of the cupola features a desk with a drafting table where Curtiss would have designed his aircraft and aero engines. The wall includes a period-correct telephone and clock, and a wooden filing cabinet occupies part of the left side of the room. A model of an early Curtiss Pusher aircraft also hangs from the ceiling.

The right side of the recreation of Glenn H. Curtiss's office cupola features more examples of antique equipment and furniture that Curtiss would have used in the office. One of the most impressive items on the right side of the office is the large antique wooden floor globe in the corner of the room. The recreation of the cupola also features many small details, including a camera sitting on the table, a vintage spy-glass hanging on the wall, and pictures of early Curtiss aircraft hanging on the wall above the globe.

Before leaving the Glenn H. Curtiss Museum, visitors are encouraged to check out the museum's restoration workshop, located in a small area at the rear of the building. On days that museum volunteers are in the workshop, they are available to answer questions about restorations or the museum's aircraft and vehicle collection. One of the projects museum volunteers have been working on for several years is the restoration of this 1943 Curtiss P-40E Warhawk fighter from World War II.

Republic P-47D-30-RA Thunderbolt

A Republic P-47D-30-RA Thunderbolt on floor display at the National Air and Space Museum's Steven F. Udvar-Hazy Center located in Chantilly, Virginia. The P-47 Thunderbolt was one of the best ground-attack aircraft of World War II. It also has the distinction of being the most produced fighter aircraft in American aviation history.

The word "Thunderbolt" is defined by the Oxford English Language Dictionaries as "a flash of lightning with a simultaneous crash of thunder". This definition perfectly describes the Republic P-47 fighter and ground-attack aircraft. Pilots who flew the P-47 into battle had the thundering roar of a 2,000-horsepower radial engine and the deadly flash of eight machine guns. The combination of a powerful and reliable engine and heavy armament made the P-47 Thunderbolt one of the best ground-attack aircraft of World War II. The P-47 was, along with the North American P-51 Mustang and the Lockheed P-38 Lightning, one of the three premier American fighter aircraft for U.S. Army Air Forces commanders during the war. The P-47 Thunderbolt also holds the distinction of being the most produced fighter aircraft in American aviation history.

The P-47 Thunderbolt's story began in 1935 when the predecessor to Republic Aviation, the Seversky Aircraft Corporation, won a U.S. Army Air Corps fighter design competition with an airplane designated the P-35. Alexander Kartveli, Seversky's chief designer and engineer, designed the P-35 with a planform semi-elliptical wing that would carry over to all the P-35's successors. The P-35 was the first fighter aircraft operated by the U.S. Army Air Corps to feature all-metal construction, retractable landing gear, and an enclosed cockpit. Despite its revolutionary design, the P-35's performance was poor. Kartveli improved the P-35 over the next few years, with each new variant featuring more powerful engines fitted with superchargers.

The next evolutionary design was the P-43 Lancer, which entered service in 1941. The P-43 was not an outstanding fighter aircraft, but it had good high-altitude performance, was well-armed, and had excellent range. Unfortunately, the P-43 Lancer had many of the same problems as its predecessor, the P-35. The P-43 lacked armor, self-sealing fuel tanks, and was considered underpowered. The XP-47 was initially supposed to be an improved version of the P-43 Lancer. However, reports of the aerial combat taking place in Europe indicated that a completely new design was needed for a modern fighter aircraft.

The proposal that Republic Aviation put forth for a fighter aircraft was a design never before seen or imagined. It would be the largest single-engine fighter aircraft designed or built by any nation during World War II. The fighter was armed with eight .50-caliber machine guns and powered by a massive Pratt & Whitney R-2800 radial engine. For excellent performance at high altitudes, the new fighter featured a turbo-supercharger system that filled almost the entire fuselage. Designing the turbo-supercharger's ducting to fit inside the fuselage while providing smooth airflow throughout the system was a significant challenge faced by Kartveli and his design team. As a result, XP-47's ducting was designed first, and the fuselage was constructed around it.

The U.S. Army Air Corps was so impressed with the XP-47 that they ordered 177 aircraft, designated P-47Bs, before the prototype XP-47 made its first flight. The XP-47 flew for the first time on May 6, 1941, but the XP-47 required two more years of testing before it was ready for combat. Pilots of the U.S. Army Air Forces 4th Fighter Group, part of the Eighth Air Force in the European theater, were the first to take the P-47into action.

Initially, pilots flying the P-47 Thunderbolt were skeptical of the aircraft's performance and capabilities. The Thunderbolt weighed twice as much as more nimble fighters such as the British-built Supermarine Spitfire. After getting over their initial concerns, pilots realized that the P-47 Thunderbolt had excellent qualities. The P -47 could dive at higher speeds than any other fighter and was heavily armored, allowing it to absorb significant combat damage. The P-47, with its eight machine guns, was one of the more heavily armed fighters available, making it ideal for ground-attack missions. Due to its large size and shape, P-47 pilots quickly nicknamed the aircraft the "Juggernaut" or "Jug", for short.

Early combat experience revealed some problems with the P-47 Thunderbolt. These problems included issues with the engine, radio, and landing gear. The P-47 also suffered from a slow rate of climb. These initial problems were quickly resolved, and the introduction of new broad-chord propeller blades in late 1943 significantly improved the P-47's climb rate.

Republic Aviation continuously improved and upgraded the P-47 Thunderbolt throughout the war to improve its performance and capabilities. One of the most significant variants of the P-47 built was the P-47D, introduced in 1943. The P-47D featured an engine equipped with water injection to boost horsepower. Later versions of the P-47D were fitted with a bubble canopy, improving pilot visibility, and underwing hardpoints that allowed extra ordnance to be carried, such as rockets, bazooka tubes, bombs, and external fuel tanks.

Range limitations plagued the P-47 Thunderbolt throughout its service in the European theater, limiting its use as an escort fighter for bombing raids deep into Germany. Fitting the P-47 with external fuel tanks only partially solved the problem. With the P-47N variant of the Thunderbolt, introduced in 1945, Republic Aviation solved the range problem with a completely redesigned wing that held more fuel. With a range of 2,000 miles (3,200km), the N variant of the P-47 was primarily used in the Pacific theater to escort B-29 Superfortress bombers attacking the Japanese home islands.

The P-47 Thunderbolt was probably the best ground-attack aircraft fielded by the United States during World War II. From the Invasion of Normandy (D-Day) in June 1944 to VE Day in May 1945, P-47 pilots destroyed 86,000 railway cars, 9,000 locomotives, 6,000 armored vehicles, and 68,000 trucks. During the war, P-47s flew half a million missions and dropped more than 132,000 tons of bombs. In the European theater, P-47 pilots destroyed over 7,000 enemy aircraft. The P-47 also had one of the lowest combat loss rates of all Allied fighters during World War II.

In addition to the United States, several other Allied countries operated the P-47 Thunderbolt during World War II. The Brazilian Air Force flew the P-47 in combat in the Italian theater, and the 201st Fighter Squadron of the Mexican Air Force flew the P-47 in the Philippines. Through the Lend-Lease program, 247 P-47s were provided to the British, and 103 to the Soviet Union. Unlike the U.S. Army Air Forces, the Soviet Union did not have a high opinion of the P-47, and little is known about how the Soviet Union used the examples they received.

A total of 15,683 P-47s were built during World War II, making it the most produced fighter aircraft in American aviation history. About two-thirds of the P-47s built reached overseas combat units. A total of 5,222 P-47s were lost during the war, either in combat or in accidents and mishaps. Postwar, the P-47 was quickly phased out of frontline service, most being relegated to secondary roles in Air National Guard units. The last P-47 was retired from Air National Guard service in 1954. Surplus P-47s were sold or given to several nations after World War II, where they served throughout the 1950s. Nations receiving large numbers of P-47s after World War II included Peru, Ecuador, Colombia, Chile, Italy, Iran, Portugal, Turkey, and Yugoslavia.

The P-47 Thunderbolt in the National Air and Space Museum's collection is a P-47D-30-RA, and was assigned U.S. Army Air Forces serial #44-32691. The U.S. Army Air Force accepted the aircraft for service on October 27, 1944, at Godman Field, Kentucky. This P-47 Thunderbolt never served overseas or saw aerial combat. Instead, the P-47 was operated as an aerial gunnery trainer at various installations on the U.S. East Coast.

On January 27, 1946, the U.S. Army Air Force (later the U.S. Air Force), transferred the P-47 from active inventory to the U.S. Army Air Force Museum (now the Museum of the United States Air Force) in Dayton, Ohio. This museum then transferred the P-47 Thunderbolt, along with several other retired U.S. military aircraft from World War II, to the Smithsonian Institution for inclusion in a future National Air and Space Museum.

To help Republic Aviation celebrate the 20th Anniversary of the first flight of the P-47 Thunderbolt, the National Air and Space Museum lent the aircraft to the company for restoration and display during the 1960s. The P-47 was later returned to the National Air and Space Museum, which displayed it at its Paul Garber Restoration Facility in Suitland, Maryland, before lending it to the Museum of Flight at Robins Air Force Base in Georgia. After calling various locations home for several years, the P-47D Thunderbolt is now permanently displayed in the National Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Virginia.

McDonnell Douglas MD-11F (1990)

The McDonnell Douglas MD-11F is a freighter variant of the MD-11 trijet, wide-body commercial airliner manufactured by McDonnell Douglas, and later Boeing. The MD-11 was a refinement of the earlier Douglas DC-10, focused on greater range, aerodynamic refinements, and increased passenger capacity. The MD-11 entered service in 1990 with launch customer Finnair. The aircraft failed as a commercial airliner when it failed to meet its range and performance targets, causing many airlines to cancel their orders for the MD-11. Only 200 MD-11s were built by Boeing before production was discontinued in 2001. Many commercial MD-11s were converted into freighters for air cargo airlines. Today, the MD-11F remains in limited service with cargo airlines UPS Airlines, FedEx Express, and Western Global Airlines.

McDonnell Douglas MD-11F

Crew: 2

Cargo Capacity: Main Deck: 96 x 125” pallets (x26) or 88 x 108” pallets (x34), Lower Deck: LD3 containers (x32)

Length: 202 ft 2 in (61.6 m) (GE engines), 200 ft 11 in (61.2 m) (PW engines)

Height: 57 ft 11 in (17.65 m)

Wingspan: 170 ft 6 in (51.97 m)

Wing Area: 3,648 sq ft (338.9 m^2)

Powerplant: Pratt & Whitney (PW) 4460/62 or General Electric (GE) CF6-80C2DF1 turbofans (x3)

Range: 3,800 to 3,950 nmi (7,040 to 7,310 km)

Cruise Speed: 551 mph (886 km/h) (Mach 0.83)

Maximum Speed: 584 mph (940 km/h) (Mach 0.88)

Empty/Gross Weights: 260,275 lb/630,500 lb (91,185 kg/285,988 kg)

Service Ceiling: 43,200 ft (13,200 m)

Largest Trijet Ever Built

UPS Flight #2976

On November 5, 2025, UPS Airlines Flight #2976, an MD-11F, N259UP, flying from Louisville, Kentucky, to Honolulu, Hawaii, crashed during takeoff from the Louisville Muhammad Ali International Airport. The accident killed the three flight crew members and an additional fourteen people on the ground. The investigation of the crash remains ongoing, but is now focusing on the engine pylons and fatigue issues with that structure. Surveillance video taken of the MD-11F during takeoff captured the #1 (left) engine and its pylon completely separating from the aircraft. All MD-11F and MD-10 aircraft remaining in service have been grounded by the Federal Aviation Administration (FAA) pending inspections and any needed corrective maintenance action. At the time of the crash, UPS Airlines operated 26 MD-11Fs in its aircraft fleet.

Flight Characteristics

McDonnell Douglas designed the MD-11 with a center of gravity much further aft than most other commercial aircraft of similar size. The MD-11 also has a fuel tank in its tail designed to act as ballast. These design features were an effort to improve fuel efficiency. However, they hinder the MD-11's crosswind performance and require a landing speed faster than that of comparable aircraft. These design features significantly decrease the margin of error for an MD-11 flight crew during takeoff and landing, especially in crosswinds and adverse weather conditions. As a result, MD-11 operators have introduced special and focused simulator training to assist their crews in handling the MD-11 in these critical phases of flight.

Cockpit

The MD-11 features a glass cockpit with six CRT display units and advanced Honeywell VIA 2000 computers. This cockpit design is called the Advanced Common Flightdeck (ACF) and is shared with the smaller Boeing 717. The flight deck features an Electronic Instrumentation System, a dual Flight Management System, a Central Fault Display System, and a Global Positioning System. The initial design of the slot/flap lever in the cockpit made it prone to being accidentally dislodged by the flight crew, leading to numerous incidents. This flaw was corrected in 1992. In the mid-2000s, Boeing updated and improved the MD-11's flight control software. The new software makes the MD-11 less prone to violent, unintentional pitch movements. The MD-11's glass cockpit and advanced avionics package enable it to be flown by a crew of two, eliminating the need for a flight engineer. On long-duration flights, a third relief/reserve pilot is carried to cover mandatory crew rest periods.

Structure

The MD-11's structure featured several significant changes from its predecessor, the DC-10. The fuselage was stretched, the wing featured a greater span with new airfoils and winglets to improve fuel efficiency, and the airframe was constructed from a larger percentage of composite materials. The most significant change was the horizontal stabilizer of the MD-11 being 30% smaller than that of the DC-10. The MD-11's empennage, or tail, is also smaller than the DC-10's.

Landing Gear

An unusual feature of the McDonnell Douglas MD-11 is the center-mounted main landing gear bogey. The center-mounted main landing gear bogey was required to support the MD-11's increased weight. Center-mounted main landing gear bogeys have also been featured on some other commercial aircraft to support their high operating weights, including the Lockheed L-1011 Tristar, the Douglas DC-10-30, the Airbus A340, and the KC-10 Extender, the military version of the Douglas DC-10-30.

Engines

McDonnell Douglas offered two engine options for the MD-11: the General Electric CF6 or the Pratt & Whitney PW4460/62 turbofan. Had British Airways purchased the MD-11, an engine from Rolls-Royce would have been offered as a third option. Both engines offered similar performance capabilities. The General Electric CF6 engine is slightly longer than the Pratt & Whitney PW4460/62 engine, so MD-11s with General Electric engines installed are slightly longer than the airframes built with Pratt & Whitney engines. The MD-11s powered with General Electric engines can be identified by the CF6's pointed exhaust nozzle. FedEx Express and UPS Airlines operate MD-11Fs with both types of engines installed.

A 1930 Fleet Model 2 With A Connection To Pearl Harbor

This classic 1930 Fleet Model 2 was once owned by K-T Flying Service, a flight training school based at the John Rodgers Airport in Honolulu, Hawaii, in the late 1930s. On December 7, 1941, during the attack on Pearl Harbor, a Japanese fighter aircraft strafed the airport, killing Robert Tyce, one of the co-owners of K-T Flying Service. Tyce was the first recorded American civilian casualty of the Pearl Harbor attack.

The Fleet Model 2 is a classic, two-seat, open cockpit biplane developed by Fleet Aircraft in the late 1920s. The Fleet Model 2 was designed for strength, maneuverability, and ease of control, making it an ideal training aircraft for student pilots. The airplane featured a steel tube fuselage structure, spruce wing spars, and aluminum ribs, all of which were covered in fabric. The Model 2 was typically powered by a 100-horsepower Kinner K-5 five-cylinder radial engine and had a cruise speed of approximately 90 miles per hour (145 km/h). The Fleet Model 2 was widely used by civilian aviation schools, such as the Roosevelt Aviation School, and later by flight schools that were part of the Civilian Pilot Training Program (CPTP), which trained pilots for military service in World War II.

K-T Flying Service was a flight school established by business partners Robert Tyce and Charles B. Knox at the John Rodgers Airport in Honolulu, Hawaii, in the 1930s. In 1939, the flight school won a contract from the Civil Aeronautics Authority to provide flight instruction as part of the CPTP. K-T Flying Service was one of three flight schools based at the John Rodgers Airport and had several aircraft as part of its fleet, including a pair of Piper Cubs, a Waco UIC cabin biplane, and a 1930 Fleet Model 2, registration number NC678M (now N678M).

On the morning of December 7, 1941, the John Rodgers Airport was busy with training and sightseeing flights departing, and a Hawaiian Airlines DC-3 was boarding passengers to prepare for a flight to Maui, when Japanese aircraft attacked the military installations at Pearl Harbor. As the attack unfolded, a single Japanese fighter strafed the airport. Robert Tyce, who was on the ramp tending to some of his aircraft, was hit in the head by the gunfire and killed instantly, becoming the first recorded American civilian casualty of the Pearl Harbor attack. Two of K-T Flying Service's Piper Cubs, rented by three soldiers from California for morning sightseeing flights, were shot down by Japanese fighters, with the soldiers killed.

The 1930 Fleet Model 2 owned by the K-T Flying Service survived the attack and has passed through multiple owners over the years. The biplane, with its unique history, is now owned by Peter Treichler of East Aurora, New York. It was flown by Craig Wadsworth during the 2025 National Warplane Museum's Geneseo Airshow in July, giving the airshow spectators an incredible chance to see an airplane flying that has a connection to the Japanese attack on Pearl Harbor on December 7, 1941, and one of the darkest days in American history.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Distelfink Airlines

Est. 2013

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.