Self Guided Tour of
The Aviation Hall of Fame
& Museum of New Jersey

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Welcome to The Aviation Hall of Fame & Museum of NJ (AHOFNJ), the official Aviation Museum of New Jersey. The human desire to fly has a long history. Human flight began in the United States in 1793, over 200 years ago with the balloon and more than 100 years ago with the fixed wing heavier-than-air aircraft flown by the Wright Brothers on December 17, 1903.

The AFHOFNJ is dedicated to the preservation and presentation of the Garden State's distinguished aerospace heritage. The Museum offers visitors an opportunity to view historic aircraft, engines, air and space artifacts, as well as an extensive collection of models, photographs and research material.

The men and women honored in the Hall of Fame represent varied and unique contributions yet all met the challenge and furthered the goal of man’s desire to fly. The museum’s collections emphasize historic events and technological advances by New Jersey's air and space pioneers spanning more than 200 years. US Human flight history started in 1793 with Jean Pierre Blanchard’s balloon flight from Philadelphia to Depford, NJ, and continues today with the New Jersey born Kelly astronaut twins and Scott Kelly’s epoch international space station mission.

While exploring and honoring the past, the Aviation Hall of Fame and Museum is firmly committed to the present and future. Each year, additional individuals of merit are honored and entered into the Hall of Fame, while outreach programs, tours and events are held throughout the year to encourage and inspire the next generation of young men and women aerospace pioneers.
The Tour

Museum Entrance

The display case, located in the entrance, contains models of military aircraft.

There are more than 400 models on exhibit throughout the Museum. Many of the models you will see are unique. For example, the Hindenburg dirigible was custom built to scale at a cost of $10,000 and came to our Museum as a donation. Some of the commercial aircraft you see on display were built to the manufacturer’s specification for display in ticket offices or other locations of importance to the company.

On the second floor in the Airport Room, you can also see a Diorama of Newark Liberty International Airport, also built to scale.

Hallway

Artwork depicting early New Jersey pioneers.

The first man to fly in America was Jean Pierre Blanchard. He flew in his balloon from Philadelphia in January, 1793. He was airborne for 46 minutes and landed 15 miles away in Deptford, NJ. The same trip by land would normally take up to 4 hours and included crossing the Delaware River.

Another early balloonist, Charles Durant, flew a hydrogen filled balloon from Manhattan to Perth Amboy, NJ, on September 9, 1830. More than 20,000 spectators cheered him along the way.

Lucretia Bradley became the first American woman to fly solo, in a gas filled balloon, on January 24, 1855 from Easton, PA, to Still Valley, NJ.

In June, 1863, Dr. Solomon Andrews flew a dirigible balloon of his own design, the first airship of its kind. Three years later, he flew across NJ from Perth Amboy to Astoria, Queens.

Frank and Joe Boland of Rahway, NJ designed and built the first fixed wing aircraft in NJ in 1909, unique for its “tailless” configuration.
Raymond R. Wells Sky Room

The first stop on your self-guided tour is our 60 seat theater where you will experience the saga of New Jersey’s aerospace history from our informative nine-minute film “Flight”. The film introduces our Museum and some of the pioneers, heroes, and events that have a connection with New Jersey.

successful flights in December, 1903

Models suspended from the ceiling in this room include:

- A PBY Catalina Flying Boat
- Leonardo da Vinci’s dreams of flight model (detail on wall).
- The F-104 a U.S. Air Force jet fighter used during the 60s and 70s.
- The Boeing 777 passenger airliner.
- A U.S. Army Blackhawk Helicopter

At the door is a display commemorating Orville and Wilbur Wright and their

A communications satellite

A U.S. Army Air Force Douglas C-47 from WWII

Upon completion of the movie, proceed straight past the rest rooms and gift shop toward the elevator. Turn left into The Great Room. Tour exhibits clockwise.
**H.V. Pat Reilly Room**

Here, history comes alive with air and space equipment, artifacts, photographs, multimedia displays, hands-on exhibits and interactive simulators.

The Golden Age of Aviation

Display case: Contains memorabilia regarding “Lucky Lindy” Charles A. Lindbergh.

Wall: Photos of long distance flight pioneers C. Lindbergh, C. Chamberlin and R. Byrd

*The Great Trans-Atlantic Competition.* By 1927, there were many attempts being made to fly across the Atlantic Ocean from NY to Paris in quest of a $25,000 prize offered by hotelier Raymond Orteig and the instant fame that would come to whomever achieved it first. In 1927 the competitors were: Richard E. Byrd in a Fokker C-2, a tri-motor monoplane, with the Wright J-5 Whirlwind engines (a J-5 engine is located at the Curtiss-Wright exhibit.) The plane was named “The America”. (photo on wall) The Wright-Bellanca aircraft was a single engine monoplane named "Columbia" (see model in display case) to be piloted by NJ born Clarence Chamberlin and Charles Levine, a financier.

Another challenger was 25 year-old Charles Lindbergh in the Ryan monoplane, “The Spirit of St. Louis,” (model suspended) an aircraft built to his specifications in San Diego that also used a N.J.- built J-5 Whirlwind engine.

On April 12, Chamberlin and Bert Acosta with 451 gallons of gas and flying at an altitude of 2,000 ft. flew for 51 hours, 11 minutes non-stop to prove the Whirlwind's endurance and the capacity to fly from NY to Paris.

Lindbergh flew his aircraft to Teterboro Airport for final preparation of his engine by Wright Aeronautical personnel. Then, on May 20, 1927, Charles Lindbergh took off from Roosevelt Field, L.I. and after 33.5 hours landed at Le Bourget Airport outside Paris. He became “the hero of the age,” receiving, among other honors, a ticker-tape parade in NYC upon his return to America.

Chamberlin and Levine then flew their Wright-Bellanca plane "Columbia" from Roosevelt Field on June 5th and landed June 6th near the village of Mansfelt, Germany. They had flown 42 hours and 45 minutes and flew 295 miles further than Lindbergh.

**Naval Air Station Lakehurst**

Its history began as a munitions-testing site for the Imperial Russian Army in 1916. It was then named by the United States Army as Camp Kendrick during World War I. The United States Navy purchased the property in 1921 for use as an airship station and renamed it Naval Air Station Lakehurst. In 1920, the United States Navy established airship bases at Cape May and Lakehurst,
The first rigid airship, the USS Shenandoah, was begun in 1921.

**The Hindenburg Disaster**

On May 6, 1937, the German dirigible “Hindenburg”, arriving at Lakehurst, NJ, was approaching its docking mast. Suddenly, as it was being guided into its anchor position, it burst into flames.

Miraculously, 35 of the 97 passengers and crew survived the disaster, but the destruction of the “Hindenburg” brought the short-lived era of the great passenger airships to an end.

Previously, in 1936, the Hindenburg made a total of 10 round-trip Atlantic crossings during the summer. The flight to the U.S. averaged 65 hours and the return trip to Germany took 52 hours with a boost from prevailing winds. The Hindenburg bested by a full day and a half the time of the liner Queen Mary. The Hindenburg was 803 ft. in length, had four engines and accommodations for 50 passengers. It had to use hydrogen which was highly flammable because the U.S. would not sell helium, an inert gas, to the German government, due to Hitler's on-going threat in Europe.

The disaster was the subject of spectacular newsreel coverage, photographs, and Herbert Morrison's recorded radio eyewitness report from the landing field, which was broadcast the next day. The incident shattered public confidence in the giant, passenger-carrying dirigibles and effectively marked the end of the rigid airship.

**Actual fragments from the ill-fated German Zeppelin, “Hindenburg”**

The non-rigid blimp made a comeback during WWII in use as an anti-submarine weapon. More than 100 blimps were put to use to combat enemy submarines off our coast. During World War II, and continuing into the early 1960’s, anti-submarine patrol blimps were operated from Lakehurst.
Hot-Air Balloon Basket

This is a typical basket used with a hot air balloon. You can climb in if you like, just please be careful.

Early NJ Aircraft and Engine Manufacturers

Curtiss Wright Corporation

In the late 1930s, with early indications that a war was on the horizon, the Curtiss-Wright Corp. in Paterson, the Bendix Corp. at Teterboro, and the Luscombe Airplane Corp. in West Trenton, expanded their facilities at a tremendous rate to produce the aircraft engines and instruments needed to supply allied forces and eventually our own military.

On July 14, 1940, Curtiss-Wright opened a new plant in Paterson. A single row Wright Cyclone 9 cylinder engine (R-1820) initially required 5,000 man hours, 37,000 manufacturing operations and 5,500 parts. Eventually other factories were opened in Fair Lawn, Caldwell, and Clifton. Men and women soon were able to assemble a complete engine in 25 minutes.

From 1940 to 1945, Curtiss-Wright produced 281,164 engines, 146,468 propellers and 29,269 planes. It was the second largest manufacturer in the U.S.

Fokker Aircraft (wall)

During World War I, Anthony Fokker designed the Red Baron’s plane and perfected the synchronized machine gun firing through a propeller.

After the war he came to NJ and set up operations at Teterboro and lived in Hasbrouck Heights. His Tri Motor was made famous by Richard E. Byrd’s flight over the North Pole in 1926 and the South Pole in 1929. Dozens of Fokker Tri Motor aircraft were manufactured at Teterboro for airline use.

Other pioneering companies include:

Lawrence: The 2 cylinder Lawrence aircraft engine (forerunner of the famous Wright Aeronautical J-5 Whirlwind – model on display floor);

Lenape: The 3- cylinder engine was produced by the Lenape Engine Company of Matawan, N.J. In 1938, it powered a piper cub airplane that flew from Newark Airport to Miami and back nonstop.
Curtiss Wright Engines

Examine the engines produced by Wright Aeronautical and Curtiss-Wright Corp.

These three engines are possibly the most famous piston powered aircraft engines in aviation history.

Wright Aeronautical J-5 Whirlwind engine was used in the competition to fly across the Atlantic in 1927. It was the most popular engine of its day.

Curtiss Wright R-1820 Cyclone 9 Cylinder Engine powered the B-17 Flying Fortress and the C-47 (also known as the DC-3) during WWII.

The R-3350 engine manufactured by Curtiss Wright Corporation

The R-3350 is an 18 cylinder air-cooled radial engine that was used to power the four engine Boeing B-29 Superfortress during WWII. The R-3350 generated 2,200 hp, gave the B-29 a combat range of 3,250 miles, a cruising speed of 220 mph, and a maximum speed of 357 mph. The R-3350 engines provided the power to carry a bomb load of 20,000 lbs. Because of the superior power of this engine, it could greatly outperform all other bomber aircraft of WWII. The superior long range performance and capabilities of the B-29, made possible by its engines, were used to bomb the enemy homeland from a great distance and deliver the first atomic bomb on August 6th, 1945 during WWII.

The R-3350 engine was later used to power commercial aircraft such as the popular Lockheed Constellation and the Douglas DC-7. These aircraft were used to expand commercial travel and provide safe transportation to Europe, Asia, and South America during the years prior to the introduction of commercial jet aircraft starting in 1958.
Two other popular military aircraft that used the R-3350 engine included the Douglas AD-5 Skyraider and the Lockheed P2V Neptune, both used by the U.S. Navy starting during the years immediately after WWII.

**Bendix Exhibit**

Cockpit avionics maker Bendix Corporation was adjacent to Teterboro Airport on Route 46. For a few years, Teterboro Airport was renamed Bendix Airport. In 1943, voters changed the name back to Teterboro Airport.

**“Parachute Pioneer” Switlik Corporation**

Stanley Switlik founded a company called the Canvas Leather Specialty Co. based in Trenton, NJ in 1920. By 1924, the company was making safety belts for aircraft and the following year began producing parachutes. The name was then changed to Switlik Parachute Co. Switlik, in partnership with Amelia Earhart's husband, George Palmer Putnam, developed the first U.S. parachute tower which was designed to train parachutists.

In 1940, the first paratroopers were trained at a Switlik facility in Windsor, N.J. In 1947, with Boeing Co., Switlik designed and produced the first parachutes for missile recovery.

Known for D-Day Decoy as seen in the movies “The Longest Day”

**Switlik D-Day Paratrooper Dummie is an example of a NJ-made device that helped America win the war against Hitler in Europe.**

**Operation Titanic** is probably the best known operation of its kind. In the early hours of the morning of June 6, 1944, a force of 40 Hudsons, Halifaxes and Stirlings dropped a total of 500 dummies in four separate locations along the coastal interior. Rifle fire simulators and two teams of Special Air Service soldiers carrying recordings of loud battle noise were also dropped to reinforce the deception and divert German troops away from the Allies' actual drop zones. The dummies were nicknamed Rupert and were fabricated with sack cloth/burlap representations of a human figure stuffed with straw or sand and not the highly elaborate and lifelike rubber dummies suggested in some accounts and portrayed in the film The Longest Day. They were equipped with an explosive charge that burned away the cloth after landing to prevent the immediate discovery of their true nature.
Dassault/Falcon Jet

Experience the Principles of Flight

Three interactive exhibits not only show you the principles of airplane flight but also allow you to experience and demonstrate them to yourself.

Take the throttle and try it for yourself.

Learn about Thrust and Drag and how thrust needs to overcome drag to fly.

Learn how the shape of an airplane wing interacts with the air to give it the lift to enable it to fly.

Learn about how Thrust Overcomes Drag to build up speed and how an airplane takes off and lands at an airport.
**Reaction Motors**

*(Aircraft and rocket engines built in NJ.)*

Reaction Motors, Inc. of Denville, NJ. Reaction Motors, Inc. (RMI) was incorporated on December 16, 1941, nine days after the attack on Pearl Harbor. Its sole asset was one liquid fuel rocket motor. RMI was formed by four rocket enthusiasts: Lovell Lawrence, Jr., Franklin Pierce, John Shesta and James Wyld. They won a number of military contracts and developed more powerful engines during the war years.

**Captain Charles “Chuck” Yeager**

On October 14, 1947, Chuck Yeager in the Bell X-1 was released from a B-29 mother craft at 35,000 feet. With the powerful 6,000 lb. thrust, liquid oxygen-alcohol rocket engine developed by Reaction Motors, Inc. of Denville, NJ, Yeager proceeded to break the sound barrier.

In 1959, they developed the XLR-99 rocket engine that would power the X-15. On June 15, 1962, pilot Joe Walker flew at 4,104 mph. Then on July 17, 1962, Major R.M. White flew to an altitude of 313,750 feet, the first aircraft flight above 300,000 ft. (59.6 miles). That achievement qualified White as an astronaut because he exceeded 50 miles into the atmosphere. In 1963, Walker reached 354,200 ft (67 miles) thanks to the engineers of Reaction Motors. In May, 1958, Reaction Motors was merged with Thiokol Corporation.

**Images of the X-15 rocket motor:**

Produced by Reaction Motors
How a Jet Works

Demonstration of the J-65 jet engine. To see it operate, press the “PUSH BUTTON” on the lower left side.

How a jet engine works: The engine produces its own pressurized gas, and it does this by kerosene or jet fuel. The heat that comes from burning the fuel expands air, and the high-speed rush of this hot air spins the turbine.

The purpose of the fan is to dramatically increase the amount of air moving through the engine, and therefore increase the engine's thrust. When you look into the engine of a commercial jet at the airport, what you see is this fan at the front of the engine. It is huge -- on the order of 10 feet in diameter on big jets, so it can move a lot of air. The air that the fan moves is called "bypass air" because it bypasses the turbine portion of the engine and moves straight through to the back of the nacelle at high speed to provide thrust.

Aerospace Manned Space Exploration

Major contributions were made by astronauts from New Jersey. These include Wally Schirra, Jr., Buzz Aldrin, Jr. Rusty Schweikart, Terry Hart, Kate Sullivan, Mark Polansky, George Zamka, Garrett Reismann, Robert Cenker, and “space twins” Mark and Scott Kelly.

The Astronauts

Walter M. Schirra, Jr., from Oradell, NJ, was a Navy Commander, a Naval Academy graduate, and one of the original seven American astronauts. Schirra flew 90 combat missions over Korea in an F-84, and then became a test pilot. He accumulated more than 4,000 hours of flying time, with 3,300 in jet aircraft. On October 3, 1962, he flew the fifth manned Mercury spacecraft into orbit. Sigma 7 stayed up for 9 hours and 13 minutes. On December 15-16, 1965, he made his second journey into space as command pilot of the Gemini 6 flight. He also served as commander of Apollo 7 in October 1968. He is the only astronaut to fly in the Mercury, Gemini, and Apollo Programs.

Edwin "Buzz" Aldrin, Jr. of Montclair, NJ graduated from the U.S. Military Academy in 1951, he flew 66 combat missions in F-86's and shot down two MIG-15's over Korea. On November 11, 1966, Aldrin and James Lovell were launched in Gemini 12. It was the last of the Gemini missions and was a four-day journey. The Gemini 12 made the first fully automatic, controlled re-entry into the earth's atmosphere and splashed down 2.5
miles from the recovery ship, USS Wasp.

In 1969, he became the second man on the moon during the Apollo 11 mission. He and Neil Armstrong walked on the Sea of Tranquility for over 2 hours.

Aldrin’s father was a pioneer aviator who organized and directed the Standard Oil's Flight Dept. for many years and managed Newark Airport during the Second World War.

Russell "Rusty" Schweikart, from Neptune, NJ, was the Lunar Module Pilot on the ten-day voyage of Apollo 9, March 3-13, 1969. During the mission, he became the first astronaut to test the Portable Life Support system that would later be used by astronauts who walked on the moon. On the 5th day of the flight, McDivitt and Schweikart took man's first flight in the Lunar Module, the spider-like vehicle that would land men on the moon. They undocked from the Command Module and flew more than 100 miles away. Then, relying on radar, they maneuvered back to a smooth rendezvous and link-up with the Command Module. Schweikart was a civilian and left NASA in 1977.

Terry J Hart is from Long Valley, NJ. He qualified as an F-106 pilot in the Air Force Reserve in 1969, and then joined the Air National Guard in 1973. In January 1978, he was selected as an astronaut. He was a member of the five-man crew aboard space shuttle flight 41-C on April 6, 1984. Hart made space history when he used a 50 foot robot arm to pluck the crippled Solar Max satellite from orbit. Repairs were made and all functions were restored. After his space flight, he resigned from NASA and returned to Bell Labs as a supervisor of the Military and Space Applications Division.

On October 11, 1984, Kathryn Sullivan, a native of Paterson, NJ, became the first American woman to walk in space. On shuttle flight 41-G, aboard Challenger, she and astronaut David Leestma performed an in-space simulation of refueling another spacecraft in orbit. They spent 3 hours and 27 minutes in the Challenger's open cargo bay as they floated weightlessly 130 miles above the earth.

In 1972, Robert Cenker joined RCA's Astro-Electronic Division in NJ as an engineer working in advanced stabilization and control. Previously, he spent time in the design and development of communications satellites. In 1985, he was selected by NASA to serve as the prime payload specialist on Space Shuttle Mission 61-C. Cenker was aboard the shuttle Columbia when it was launched January 12, 1986. He deployed the RCA Satcom Ku-Band-l satellite and performed many experiments. He has two degrees in aerospace engineering from Penn State Univ. and an electrical engineering degree from Rutgers Univ. He lives in E. Windsor, NJ.

**QUIZ**

**How many Apollo missions actually landed on the moon?**

Six missions: #11, 12, 14, 15, 16, 17. Apollo 13 was made famous by the Tom Hanks Movie, “Apollo 13”. The famous quote “Houston, we’ve had a problem” originated on that mission. Launched: April 11, 1970 -- Splashdown: April 17, 1970
Mission: Third attempted lunar landing. At 55 hours, 54 minutes, and 53 seconds into the mission, a cryogenic tank filled with super cold fuels explodes, causing a loss of breathable oxygen and power in the command-service module. The crew transferred from the damaged Command Module and survived in the LM until just a few hours before splashdown, when they return to the command module and reentered the atmosphere.

Space Navigation
The ST-124-M Inertial Platform is a device for measuring acceleration and Attitude of the Saturn V launch vehicle. It was carried in the Saturn V instrument unit as part of the complex navigation system of the Saturn V. The ST in the name stands for “stable table”

It was manufactured at Bendix Systems in Teterboro NJ in 1970.

Space Exploration Today.
International Space Station Display

Look at the scale model of the ISS and a video presentation from many of the astronauts who visited the ISS.

The ISS

The International Space Station is a convergence of science, technology and human innovation that demonstrates new technologies and makes research breakthroughs not possible on Earth. The space station has had continuous human occupation since November 2000. In that time, it has been visited by more than 200 people and a variety of international and commercial spacecraft. The space station remains the springboard to NASA's next great leap in exploration, including future missions to an asteroid and Mars.

Just outside the main door of the room you will see the Buzz Aldrin Exhibit (on hallway wall)
Buzz Aldrin was one of the third group of astronauts named by NASA in October 1963. On November 11, 1966, he and command pilot James Lovell were launched into space in the Gemini 12 spacecraft on a 4-day flight, which brought the Gemini program to a successful close. Aldrin established a new record for extravehicular activity (EVA), spending 5-1/2 hours outside the spacecraft.

He served as lunar module pilot for Apollo 11, July 16-24, 1969, the first manned lunar landing mission. Aldrin followed Neil Armstrong onto the lunar surface on July 20, 1969, completing a 2-hour and 15 minute lunar EVA.

In 1929, Amelia Earhart and other women aviators of the time promoted a Women’s Air Derby, a cross country competition run in conjunction with the National Air Races held in Cleveland, Ohio. The race was open to women holding a pilot’s license with a minimum of 100 hours of solo flying time. Immediately after the first Derby, Earhart and 25 other licensed women pilots met at Curtiss Field in Valley Stream, Long Island, NY to form an association. It was called The Ninety Nines for the number of charter members who had joined. Since that time, The Ninety Nines has greatly increased its membership and now have chapters throughout the world.

The Northern New Jersey Chapter of the Ninety-Nines designed and operates the Women in Aviation Exhibit for the Museum.
America’s first hover craft
(In the center of The Great Room)
In late December, 1959, Charles Fletcher, a U. S. naval Officer and aeronautical engineer from Sparta, NJ, successfully operated his new creation, the Glide-Mobile. He hoped to interest the military in his invention for use as a flying jeep.

The air-car could travel at 50 mph. Fletcher worked for Reaction Motors in Denville where he made major contributions to the development of the X-15 rocket engine and other projects.

Overhead Gallery

F4U Corsair
A carrier-capable fighter designed and manufactured by Chance-Vought Corp. and later licensed to Goodyear. The Corsair first flew on May 29, 1940, and entered service in December, 1942. The Corsair joined the fleet and went aboard U.S. aircraft carriers in late 1944.

The Corsair was often used to support ground troops in the Pacific War and in Korea. It was an excellent fighter-bomber. The F4U was made popular on the TV program “Black Sheep Squadron” about the exploits of Major “Pappy” Boyington who received credit for 28 kills during WWII.

The Mars Observer spacecraft, also known as the Mars Geoscience/Climatology Orbiter, was a 1,018-kilogram (2,244 lb) robotic space probe launched by NASA on September 25, 1992 to study the Martian surface,
atmosphere, climate and magnetic field. During the interplanetary cruise phase, communication with the spacecraft was lost on August 21, 1993, 3 days prior to orbital insertion. Attempts to re-establish communication with the spacecraft were unsuccessful.

Exhibit GROG-4

**Tiros Weather Satellite**

Overhead is TIROS, or the Television Infrared Observation Satellite. This is a ground-test example of one of a series of early weather satellites launched into polar orbit by NASA, beginning with TIROS-1 in 1960. TIROS was the first satellite that was capable of remote sensing of the Earth.

**Rocket Powered Mail Plane “Gloria II”**

Soaring high above the Great Room is the 16-foot rocket-plane “Gloria II”. In February 1936, 700 spectators watched as famed pioneer rocket scientist Dr. Willy Lee ignited the engine in the tail of the Guggenheim School of Aeronautics designed un-manned mail aircraft. On this second and only successful flight, the Gloria II rocketed several hundred yards across and over the ice of frozen Greenwood Lake, New York, landing on the Hewitt, New Jersey side of the lake. In doing so it claimed the title of the first rocket-powered airplane in America to fly mail from one state to another. The cargo: 6,149 first day covers specially created for the event and carried in a fireproof mail-sack.

**Scorpion Experimental Helicopter**

Derived from an original design by Mr. B.J. Schramm, the Schramm Javelin evolved into the Schramm Scorpion, both of which were developed by the Schramm Aircraft Company.
The ram jet is essentially a supersonic power plant which functions most efficiently at speeds from Mach 2 to Mach 5 and 100,000 feet altitude. It is basically a simple engine; no moving parts are required in the actual generation of thrust, but is requires highly compact and accurate mechanism to control its flight. Because it depends on high speed for the compression of air, the ram jet must get an assist before it can start, either by drop from a fast-flying plane or by rocket boosters.

The AHOF remembers all the men and women who were born or who lived in NJ or who achieved something great in aviation in the Garden State. Currently there are over 170 pioneers and heroes being honored in this room.

They include Amelia Earhart, Charles Lindbergh, Thomas McGuire, Buzz Aldrin and Wally Schirra just to name a few. A brief biography is written on each plaque. The men and women, whose outstanding aeronautical achievements have brought worldwide recognition to New Jersey, are enshrined here. Note the newspaper headlines, paintings and models.
Dehmel Room Hallway

The hallway contains exhibit cases of both historic and current commercial, passenger and freight aircraft as well as airlines you can fly today and airlines that are just enjoyable memories of the past.

The displays contain scale models of some of the most famous commercial airplanes. There are images of emergency cards from the 60’s 70’s and 80’s, and printed timetables detailing every flight the airline flew. In the cases you will find items that you would have received as a passenger in what is now called the “glamour days” of passenger flying. Things like playing cards passed out to “pass the time”. You will also see examples of authentic airline employee ID badges.

Dehmel Room

This is the world’s first electronic flight simulator built by legendary Curtiss-Wright Corporation. The Curtiss-Wright electronic trainer was designed by Richard Dehmel and donated to the museum after his death, along with funds to build the Museum's new wing.

In 1943, Richard C. Dehmel licensed Curtiss-Wright Corp. to produce flight training devices under his patents. The simulators were the first of their kind, and after five years of research they went into production. By 1951, an electronics division was formed and a modern plant for producing the simulators for military and civilian use was opened in Carlstadt, NJ. The plant also produced engine and propeller controls, guided missiles and related devices.
In the first full year of operation, the value of the Electronics Flight Simulator was proven during 13,000 hours of simulator time in which Pan American World Airways trained 125 crews plus 85 Military Air Transport crews. Use of the simulator enabled Pan Am to reduce crew training costs by 60% and cut in-flight training time from 21 to 8 hours per crew. Our example was used by Eastern Air Lines.

The Tuskegee Airmen

This special group of aviators was known as the Red-tailed Angels. In April, 1941, the War Dept. announced that it would establish an air unit at the Alabama Institute where black airmen would be trained. In July, 1941 the first class of 12 cadets was initiated. Nearly all of the 2,000 black airmen who fought in WWII were graduates of Tuskegee.

Barnstormers then and now

The term barnstorming comes from an earlier American tradition of rural political campaigns. Barnstorming was a popular form of entertainment in the 1920s in which stunt pilots would perform tricks with airplanes, either individually or in groups called a flying circus. Barnstorming was the first major form of civil aviation in the history of flight.

The term barnstormer was also applied to pilots who flew throughout the country selling airplane rides, usually operating from a farmer's field for a day or two before moving on. "Barnstorming season" ran from early spring. The famed Gates Flying Circus was based at Teterboro Airport during this period.
Flying Aces

Our display represents flying aces of NJ from both WWI, WWII and Korea.

Thomas Buchanan McGuire Jr. (August 1, 1920–January 7, 1945) was the second highest scoring American ace during World War II. His memory has been preserved by the naming of McGuire Air Force Base in Burlington County, New Jersey. McGuire was born in Ridgewood, NJ. McGuire's skill at maneuvering the large twin-engine P-38 was legendary, and he would become one of the top scoring pilots in US Air Force history.

Flying Tigers

The 1st American Volunteer Group (AVG) of the Chinese Air Force in 1941–1942, famously nicknamed the Flying Tigers, was composed of pilots from the United States Army (USAAF), Navy (USN), and Marine Corps (USMC), recruited under presidential sanction and commanded by Claire Lee Chennault. The ground crew and headquarters staff were likewise mostly recruited from the U.S. military, along with some civilians.

The group consisted of three fighter squadrons with about 20 aircraft each. It trained in Burma before the American entry into World War II with the mission of defending China against Japanese force.

The Tigers' shark-faced fighters remain among the most recognizable of any individual combat aircraft of World War II, and they demonstrated innovative tactical victories when the news in the U.S. was filled with little more than stories of defeat at the hands of the Japanese forces.

The plane they flew was the Curtiss Wright P-40 “War Hawk”. (Every P-40 was built in Buffalo NY.) The Flying Tigers were disbanded in 1942 and crews were reassigned back into the U.S. military.
The Enola Gay (B-29)

The Enola Gay was the name of the B-29 that dropped the first atomic bomb over Hiroshima on August 6, 1945. The co-pilot, Robert A. Lewis, was from Ridgefield Park, NJ.

Exiting the Dehmel Room, make a left turn, then right.
Please take the elevator to the second floor.
Make a right upon exiting the elevator.

Little Cut Up

Sit in the cockpit of our “Little Cut Up” airplane and make the control surfaces move on the wings and tail. The "Little Cut-up" is for young people to sit in, and is used to demonstrate the ailerons, elevators, and rudder and the effect they have on the flight path of an aircraft. The “Little Cut Up” was made from actual “cut-up” aircraft parts.

B-52 Ejection Seat

The B-52G aircraft is a heavy bomber equipped with six crew stations. Each crew station has its escape hatch and ejection seat. The configuration of the aircraft would required this ejection seat to drop down from the aircraft. Fighters and other aircraft with “bubble tops” would eject up.
In all cases, a parachute is deployed for a safe landing.
Para-Plane

NJ designed para-plane is a parachute with motor, passenger seat, controls, and wheels slung beneath. Airspeed is typically about 25-35 mph. Typical operating heights are between 500 and 1,500 feet, and can be flown for about 3 hours. A single-seater typically costs about $10,000.

The US Postal Service

In 1916, Alan Hawley flew from NY to Washington, DC carrying a heavy bundle of newspapers representing the mail. It was viewed more as a publicity stunt, but the idea did not completely die. In 1918, the U.S. Post Office Department and the U.S. Army joined forces to establish an air mail service between N.Y. and Washington, DC.

Airfields were established at Belmont Park, NY, in North Philadelphia, and in Washington, DC. The flights began in May, 1918, using Army pilots. Weather was a major obstacle. Finally in August, the Post Office Department received 6 new JR-1B's. The prototype of the plane was designed by Charles Healy Day. The JR-1B sold for $13,500 with the front cockpit used as a mail compartment. On August 18, 1918, the mail service began between Bay Way, NJ, and Washington, DC. New routes were established as far west as Chicago.

In 1923, The Post Office Department established a new airport terminus on a farm operated by John R. Hadley, Sr., in Piscataway Township, NJ. The new airmail route to Cleveland and Chicago had a refueling stop in Bellefonte, PA. The challenge was to fly over the Allegheny Mountains and its unpredictable weather patterns with no radio communication and only a simple compass for navigation.

Richard E. Byrd Exhibit

Rear Admiral Richard Evelyn Byrd, Jr., USN (25 October 1888 – 11 March 1957) was a naval officer who specialized in feats of exploration. He was a pioneering American aviator, polar explorer, and organizer of polar logistics. Aircraft flights, in which he served as a navigator and expedition leader, crossed the Atlantic Ocean, part of the Arctic Ocean, and a segment of the Antarctic Plateau. Byrd claimed that his expeditions had been the first to reach the North Pole (1926) and the South Pole (1929) by air. His South Pole claim is generally supported by a consensus of those who have examined the evidence.

Byrd was a recipient of the Medal of Honor, the highest honor for heroism given by the United States.

His aircraft used the NJ built Wright Aeronautical JP-5 Whirlwind engine. Note
additional background during the Great Trans Atlantic Competition display at the entrance of the H.V. Pat Reilly Room downstairs.

*From the balcony, enjoy the aerial view of the H.V. Pat Reilly Room*

**Silvio Cavalier Research Library**

Our Library began in 1989. This Library contains over 3,000 books and over 300 videos on aviation and space history. Over 1,200 entries of Curtiss Wright files have been cataloged. There are 8 file cabinets with mostly technical information about engines, propellers, etc., and annual reports going back to 1929. The Smithsonian has the official files. Curtiss Wright files for AHOF were collected from the public. Many manuals are in storage. Access is by appointment only. During the summers of 1934 and 1935 Silvio Cavalier conducted his banner touring/advertising operation over the New Jersey shore. In 1940, he was hired by Eddie Rickenbacker as a pilot with Eastern Airlines and stayed with the airline for 28 years. Our Research Library was named after this pioneer.

**Radar Set**

On display is an actual early 1950’s radar unit (Radio Detection and Ranging). A vital tool in maintaining safe and orderly skies for all aircraft, Radar is used today to monitor flights in transit as well as control aircraft movements near airports as they take off or land.
Airport Room

Newark Liberty International Airport

Our Museum offers a pictorial presentation of Newark Airport from its inception on October 1, 1928, to the present. This display illustrates the advances of commercial aviation, i.e., type aircraft flown and the growth and advances that have taken place at Newark Liberty International Airport in 80+ years.

Note the diorama of Newark airport

Chamberlin’s Journey

Chamberlin was presented this glass globe sculpture by the Czechoslovakian government after his flight to Germany. This sculpture is located upstairs.

With Admiral Byrd, and Noville, Acosta and Balchen, the Fokker C-2 “America” flew from Roosevelt Field on June 29th and arrived 42 hours later on July 1 at 2 am safely ditching the aircraft just off a beach in France.

PEOPLEexpress Exhibit

People Express Airlines, stylized as PEOPLEexpress was a U.S. no-frills airline that operated from 1981 to 1987, when it merged into Continental Airlines. The airline's headquarters was in the North Terminal of Newark International Airport in Newark, New Jersey. Their fleet started with 737’s then expanded with 727’s then continued the expansion with 747’s.
**Barling NBL-1 Six Engine Bomber**
This bomber was built by the Wittemann Brothers for the US Army. It was built at Teterboro in 1922. At that time it was the largest plane in the world.

**Teterboro Airport**
In 1905, Charles Wittemann and his brother Adolph founded the C & A Wittemann Co., one of the earliest aircraft manufacturing plants in the world on Staten Island. After several expansions, it became apparent that a larger area was needed and so the move was made to the Newark area, near today's location of the international airport. Orders continued to pour in. The demand was great for Army and Navy training planes and accelerated even further with WWI. Further expansion was necessary.

At the end of 1916, a new location was found that has become Teterboro Airport. The land belonged to Mr. Walter Teter of Montclair, NJ. A sod airstrip was cleared, and at the end of 1916, the Wittemanns’ made the land purchase deal thru Henry Hollister, Mr. Teter's manager. The Wittemanns’ moved from Newark to Teterboro immediately.

In 1940, NJ land developer Fred Wehran purchased Teterboro Airport, a 300 acre tract, from the Riser Land Company for about $450,000. To develop it, he borrowed $1 million from Standard Oil of NJ (EXXON) giving them exclusive rights to sell its fuel at Teterboro.

The Brewster Construction Co., based in Bogota, paved the runways and built the hangers and other buildings. Wehran’s vision was to develop Teterboro into the busiest Air Freight Terminal because of its proximity to NYC. His project was delayed because of WWII. After the war he was able to continue with his plan. And by 1949, Teterboro was known as the busiest air cargo terminal east of the Mississippi. That same year, he sold the airport to the Port Authority of NY & NJ for $3 million.

**The Bendix Beacon**
This fully restored and operational anti-collision beacon was mounted on the roof of the historic Bendix Building for many decades, possibly dating back to the opening of the factory by the Bendix Aviation Corporation in 1938. The purpose of the light was to provide a visual reference for pilots nearing Teterboro Airport in order to avoid the building while on final approach to land.

**Exit the Airport Room, make a left, and then right to the elevator. Go to First Floor**
**Make a left; go down the hallway past the Hall of Fame and Dehmel Room. .**
Exit door to the outdoor display area. 
Tour counterclockwise.

Exterior Exhibit Area

Martin 202

Martin 202 airliner N93204 s/n 14074 manufactured July 1950
The Martin 202 was one of the first post-war airliners. The twin-engine piston aircraft was intended to be a replacement for the DC-3 which had been the first modern airliner. Its first flight of a 202 was in November, 1946 and it was later certified August 30, 1947. Total production was 47 aircraft. The aircraft had a non-pressurized cabin.

TWA and Northwest were its initial customers but eventually sold their Martin 202’s to California Central and Pioneer Airlines. Later Allegheny Airlines acquired a total of 18. After Allegheny, this aircraft was used for private charter service, for the Herman’s Hermits and The Animals rock bands. This is the only Martin 202 to survive.

Convair 880 Jetliner Cockpit

The Convair 880 was a jet airliner produced by the Convair division of General Dynamics. It was intended for use on medium range routes while the larger Convair 990 was intended for use on longer range routes like the Boeing 707 and Douglas DC-8. Only 65 Convair 880s were produced over the lifetime of the production run from 1959 to 1962, and General Dynamics eventually withdrew from the airliner market after considering the 880 (and later 990) project a failure.

The CV-880 is open to the public only during our Open Cockpit Weekends. Check our schedule for the next event.
Bell AH-1 Cobra
Our attack helicopter flew actual combat missions during the Vietnam War. The type’s first flight was September 7, 1965 and was then introduced in 1967. Of the 1,110 AH-1’s delivered from 1967 to 1973, approximately 300 were lost to combat and accidents.

Walters Airport Rescue & Firefighting Vehicle
1994 Walters CT4 Aircraft Fire Fighting Rescue Truck with a 1,000 g.p.m. pump, 1,500-gallon tank, 150-gallon foam tank (3% AFFF), carrying 150 ft. of 2-inch hose, 150 ft. of booster hose, an 800 g.p.m. roof-mounted stang gun. This was the purpose-built airport fire truck used by NJ’s Morristown Municipal Airport.

Bell 47
One of the first practical helicopters. Design of the Bell 47 began in the 1930s, but a decade passed before a prototype was completed in 1945. In 1946, the Bell 47 became the first helicopter to be approved for civilian use. By the time production stopped in 1973, over 6,000 Bell 47s in several different models had been produced. Bell 47s are still used throughout the world.

The most well-known use of Bell 47s came during the Korean War, when the helicopters were used by the United States Army MASH (Mobile Army Surgical Hospital) to evacuate wounded soldiers from the battlefield. Scenes of the Bell 47 being used for medical evacuations were often shown on the television series "M*A*S*H*.

Army vehicle collection.
Grumman OV-1A Mohawk

(Nicknamed Whispering Death By Vietcong)

The Grumman OV-1 Mohawk is an armed military observation and attack aircraft, designed for battlefield surveillance and light strike capabilities. It is of twin turboprop configuration, and carried two crewmembers with side by side seating. The Mohawk was intended to operate from short, unimproved runways in support of Army ground forces.

The Mohawk's mission also included observation, artillery spotting, air control, emergency resupply, naval target spotting, liaison, and radiological monitoring.

There are examples of each Mohawk variant still airworthy, and they continue to see active service in Argentina. Over its production run, 375 Mohawks of all types were built.

Lunch area

Rest and enjoy your picnic lunch in an authentic military field setting.

Return to the Main entrance and exit to see the remaining outdoor exhibits:

Lockheed LASA-60 Bush Plane

The AL-60 was a light civil utility aircraft of the late 1950s and early 1960s, originally designed by Al Mooney in the United States. After the company decided not to build the aircraft in the US, it was manufactured, under license from Lockheed, in small quantities in Mexico where it was called the “Santa Maria” and a few were assembled in Argentina (Santa Isabel, Córdoba, by Aviones Lockheed-Kaiser Argentina but a new factory was never built), and under license in Italy.
Coast Guard HH 52A Helicopter

With a range of 474 miles at 109 mph, the HH-52 allowed the USCG to quickly get to rescue calls at greater distances than ever before. Sikorsky HH-52 Seaguard helicopters were the workhorse helicopters for the United States Coast Guard from 1963 to 1989. Credited with 15,000 lives saved, the HH-52A is the most successful search and rescue helicopter in the world. Our particular HH52A #1455, became famous in 1980 when, during the “Mariel/Boatlift” where it was involved in saving nearly 30 Cuban refugees after their boat sank in the Straights of Florida.

Of the 99 Sikorsky HH-52A Seaguard helicopters delivered to the United States Coast Guard, 17 are preserved in museums, with one still actively flying at air shows. Recently refurbished, this aircraft is part of the standing exhibit at the NJ Aviation Hall of Fame.

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Gift Shop

Don’t forget to visit the gift shop, brimming with aviation related gifts, books and mementos for you, and your family and friends.

Finally, if you enjoyed your visit, please tell your friends and family about our Museum. Please watch for our aviation expo, Wings & Wheels, held each year in June which is comprised of both historic and modern aircraft, and classic cars for all to visit up close. Also, return and visit and sit in the airplane cockpits on our open cockpit weekends held 5 times a year.

Join NJAHOF

Become a Member! Please inquire at the office for details. For information on the benefits of joining the NJ Aviation Hall of Fame please check our web site at www.njahof.org for full membership information.

End of Tour

On behalf of the AHOF family of benefactors, trustees, volunteers and employees, thank you for visiting our Museum. We hope that you have found this tour interesting and informative.