

November/December 2025



Corey J Beitler's

“Distelfink Airlines”

An Online Aviation Newsletter

Golden Age Air Museum Photo Shoot and Workshop



Lockheed Martin MC-130J Commando II

Hubley Navy Fighter Bomber #495 Metal Toy Airplane

Toy Zone 1/40 Scale McDonnell Douglas AV-8B Harrier II

Douglas SBD-6 Dauntless

Taylor E-2 Cub

New Book Celebrates 104th Fighter Wing's F-15 Operations

Golden Age Air Museum pilot Neil Baughman flies the museum's 1918 SPAD S.XIII replica during a recent photo shoot and workshop held at the museum by Lerro Photography. Lerro Photography hosts photo shoots and workshops for photographers of all experience levels at museums, historical sites, national parks, and other places of interest worldwide.

FROM THE EDITOR'S DESK

Golden Age Event, Hubley Navy Fighter Bomber, SBD-6 Dauntless, F-15 Book

Greetings Everyone:

Welcome to the November/December edition of "Distelfink Airlines". The airshow and aviation event season is over for me, and what a great season it was. I was able to get to several great events this year, including some larger airshows and smaller events at aviation museums. "Distelfink Airlines" has had an incredible year for readership. In October, the newsletter set a record for readers and reached over 3,000 readers in a month for the first time ever. The newsletter's growth in readership this year has been tremendous. There will be one more edition of the newsletter for 2025, a Holiday Edition, before turning the focus to 2026. I am looking forward to 2026 and am already looking ahead to the airshow and aviation event schedule and making some tentative plans.

The featured content for this edition of "Distelfink Airlines" is really special. On October 18, 2025, I had the opportunity to attend a special photo shoot and workshop held at the Golden Age Air Museum by Lerro Photography. The event featured photo shoots with living history reenactors posing with the Golden Age Air Museum aircraft and vehicle collection, flight demonstrations of aircraft in the museum collection, and a night shoot featuring 14 aircraft from the museum collection. Thanks to the excellent weather, the dedication of the museum staff and volunteers, the living history reenactors, and Peter Lerro, the event was a huge success. The feature highlights many of my photos taken during this event. I want to extend a heartfelt thank you to Peter Lerro for the opportunity to attend this event and cover it in my newsletter. I also want to thank Paul Dougherty, the President of the Golden Age Air Museum, and the entire museum staff and volunteer team, for all their efforts that made the event a success. I also want to thank Paul Dougherty, Mike Damiani, Neil Baughman, Gerry Wild, and Michael O'Neal for flying excellent flight demonstrations with the museum aircraft and being patient with running them for us in the cooler evening temperatures for the event. In the feature's introduction, there are links for Lerro Photography and the Golden Age Air Museum if you would like more information about each organization.

Also featured in this edition is an example of the Hubley Navy Fighter Bomber Metal Toy Airplane. This toy die-cast airplane was one of many produced by Hubley during the 1950s and into the early 1960s. An example of this neat toy airplane was recently passed on to me by a co-worker. It is in excellent original condition and makes a nice addition to the Hubley collection of toy airplanes I have that belonged to my grandfather.

The "Aircraft of the National Air and Space Museum" section features the Douglas SBD-6 Dauntless in the National Air and Space Museum collection. The Dauntless has been on display in the museum's flagship location on the National Mall since it opened in 1976. The Dauntless was one of the key American naval aircraft used during World War II.

Finally, a new book published by the Thunderbolt Council Inc., a nonprofit organization dedicated to supporting the men and women of the 104th Fighter Wing of the Massachusetts Air National Guard, celebrates the unit's past 18 years operating the F-15 Eagle fighter. The 104th Fighter Wing recently said goodbye to the F-15 Eagle as it prepares to transition to the F-35A Lightning II.

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

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What's Inside:

Aviation Sightings:

Lockheed Martin MC-130J Commando II

The specialized variant of the C-130J Super Hercules military transport aircraft used by the U.S. Air Force Special Operations Command (AFSOC) as an aerial refueling and transport aircraft to conduct infiltration, exfiltration, and resupply of special operations forces in sensitive or hostile territories.

Aviation Memorabilia:

Hubley Navy Fighter Bomber #495 Metal Toy Airplane

One of the toy manufacturer's largest die-cast metal airplane toys, which resembled the Republic P-47 Thunderbolt and Grumman F6F Hellcat World War II fighter aircraft, featured folding wings, rolling wheels, retractable landing gear, a rotating propeller, and a cockpit canopy that opens and closes.

Aircraft Models:

Toy Zone 1/40 Scale McDonnell Douglas AV-8B Harrier II

The die-cast toy company's entry-level, affordable model of the second-generation V/STOL aircraft that has served in multiple roles with the U.S. Marine Corps, ranging from close support of ground forces to armed reconnaissance.

Special Feature:

Golden Age Air Museum Photo Shoot and Workshop

On October 18, 2025, the Bethel, Pennsylvania, aviation museum hosted an exclusive photo shoot and workshop organized by Lerro Photography, which allowed attendees to photograph the museum's collection of vintage aircraft and automobiles during day and evening sessions.

Aircraft Of The National Air And Space Museum:

Douglas SBD-6 Dauntless

An example of the final production variant of the famous World War II dive bomber that played a pivotal role in the American victory at the Battle of Midway in June 1942.

Aircraft Of Special Interest:

Taylor E-2 Cub

The small, simple, and inexpensive light utility aircraft designed by C.G. Taylor in 1930 for flight training and personal use.

One Last Thing:

New Book Celebrates 104th Fighter Wing's F-15 Operations

A book recently published by the Thunderbolt Council Inc., a nonprofit organization that supports the men and women of the 104th Fighter Wing of the Massachusetts Air National Guard, celebrates the unit's past 18 years operating the McDonnell Douglas F-15 Eagle air superiority fighter.

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Lockheed Martin MC-130J Commando II



A Lockheed Martin MC-130J Commando II operated by the 193rd Special Operations Wing of the Pennsylvania Air National Guard on approach to the Lehigh Valley International Airport in Allentown, Pennsylvania. The MC-130J is a specialized, multi-mission combat military transport and aerial refueling aircraft operated by the U.S. Air Force Special Operations Command (AFSOC). The MC-130J is designed to conduct covert infiltration, exfiltration, and resupply missions for special operations forces in sensitive or hostile territories.

The Lockheed Martin MC-130J Commando II is a specialized military aircraft operated by the U.S. Air Force Special Operations Command (AFSOC). The MC-130J Commando II is a variant of the C-130J Super Hercules, four-engine, turboprop military transport aircraft equipped with advanced features such as specialized navigation, communication, and defensive systems, enabling it to fly at night and in low-visibility conditions.

The MC-130J was developed to replace AFSOC's older fleet of MC-130E, H, and P aircraft. The MC-130J entered service in 2011. The MC-130J features new Rolls-Royce AE2100D3 turboprop engines driving six-bladed, all-composite Dowty R391 propellers. This propulsion system gives the MC-130J improved performance and fuel economy compared to previous MC-130 variants. The MC-130J also features an advanced flight deck with fully integrated digital avionics, navigation systems, and auxiliary flight deck stations. The MC-130J is also equipped with integrated defensive systems, including radar warning receivers, chaff, and flares to defend it against threats. Since its introduction in 2011, the U.S. Air Force has continued to upgrade the MC-130J to enhance its mission capabilities and to protect it against enemy threats. Modernization efforts have included installing a new terrain-following/terrain-avoidance radar system and radio-frequency countermeasures, enhancing the MC-130J's ability to operate in high-threat areas. AFSOC operates 57 MC-130J Commando II aircraft.

The MC-130J is utilized for several roles with AFSOC. The MC-130J Commando II can perform low-level air refueling missions for special operations helicopters and tiltrotor aircraft, including the CV-22B Osprey. The aircraft can also perform clandestine low-level missions to airdrop or land personnel, supplies, and equipment to special operations forces in contested environments or politically sensitive territories. These infiltration and exfiltration missions are primarily conducted at night to avoid detection by visual acquisition or airborne threats.

This MC-130J Commando II is assigned to the 193rd Special Operations Wing of the Pennsylvania Air National Guard, based at the Harrisburg International Airport in Middletown, Pennsylvania, and was spotted conducting pattern work and training operations at the Lehigh Valley International Airport in Allentown, Pennsylvania.





Hubley Navy Fighter Bomber #495 Metal Toy Airplane



The Hubley Navy Fighter Bomber #495 die-cast toy airplane was first issued by the toy manufacturer in the early 1950s. The toy airplane's mold and style closely resembled the Republic P-47 Thunderbolt and Grumman F6F Hellcat World War II fighter aircraft. The large toy airplane featured an opening and closing plastic canopy, retractable landing gear, folding wings, a rotating propeller, and colorful decals.

The Hubley Manufacturing Company was an American producer of a wide variety of toys, model kits, doorstops, and bookends. The company was founded in 1894 by John Hubley in Lancaster, Pennsylvania, with the company's first toys appearing in 1904. Initially made from cast iron, these toys featured popular themes, including horse-drawn vehicles, dogs, motorcycles, and tractors. In the late 1930s, Hubley shifted to producing toys made of zinc alloy, and die-cast vehicles became the mainstay of Hubley's toy business. To compete with rival toy manufacturer TootsieToy, Hubley began marketing and branding their die-cast toy vehicles as "Kiddie Toys". Hubley continued in the toy business until the late 1960s, when Gabriel Industries acquired the company and its assets. Gabriel Industries continued to produce many of Hubley's die-cast toy vehicles using Hubley's molds, but phased out the Hubley name on products in favor of their own on packaging.

As part of their wide selection of die-cast toy vehicles, Hubley produced several toy aircraft. These toy aircraft included models of the Curtiss P-40 Warhawk and Lockheed P-38 Lightning World War II fighters, and an excellent replica of the Piasecki HUP Retriever helicopter used by the U.S. Navy during the 1950s. Another interesting die-cast toy airplane produced by Hubley was a replica of the Bell XFM-1 Airacuda, a bold concept for a twin-engine heavy fighter developed in the late 1930s that ended up being a failure due to numerous technical problems. Hubley's die-cast toy aircraft were painted in bright colors, decorated with decals, and featured moving parts such as rotating propellers, rolling wheels, and, in some cases, folding wings and retractable landing gear.

The Navy Fighter Bomber was one of the metal toy airplanes produced by Hubley in the 1950s. The toy airplane, assigned Hubley product code #495, resembled both the Republic P-47 Thunderbolt and Grumman F6F Hellcat fighter aircraft from World War II. The Navy Fighter Bomber was one of Hubley's largest toy airplanes, with a wingspan of 12 inches (31 cm) and a length of 10 inches (25 cm). Notable working features on the toy airplane included a rotating propeller, retractable landing gear, folding wings, and a clear plastic canopy that opens and closes. The Navy Fighter Bomber was sold in several color schemes throughout the 1950s and 1960s, both as an individual toy and as a part of larger Hubley playsets featuring multiple die-cast vehicles. After Gabriel Industries bought Hubley, the toy airplane's name was changed to "American Eagle", and it was sold under that name by Gabriel, and later Ertl, to place less emphasis on the war theme of the original toy.





The Hubley Navy Fighter Bomber was the first Hubley die-cast toy airplane to have an opening and closing plastic cockpit canopy. Unfortunately, the canopy was fragile and prone to breakage over time. Many surviving examples of this toy are missing the sliding part or the entire clear canopy.



In addition to a movable canopy, the Hubley Navy Fighter Bomber had folding wings and a rotating propeller. An issue with the Hubley Navy Fighter Bomber is that the propeller was made from thin metal. Surviving examples of the Navy Fighter Bomber often have propellers that are bent or missing blades.



Toy Zone 1/40 Scale McDonnell Douglas AV-8B Harrier II



Toy Zone made this entry-level, affordable model of a McDonnell Douglas AV-8B Harrier II attack jet in the mid-2000s. The model was sold at big box retailers such as Toys "R" Us and Walmart. The model's color scheme and markings are loosely based on an AV-8B operated by U.S. Marine Corps Attack Squadron VMA-542 "Tigers" based at Marine Corps Air Station (MCAS) Cherry Point, North Carolina, in the late 1980s or early 1990s.

The McDonnell Douglas AV-8B Harrier II is a single-engine ground-attack aircraft that constitutes the second generation of the Harrier family, capable of vertical or short takeoff and landing (V/STOL). The AV-8B Harrier II is primarily employed on light attack, night attack, or multirole missions ranging from close air support of ground forces to armed reconnaissance. The AV-8B Harrier II is used by the U.S. Marine Corps, the Italian Navy, and the Spanish Navy, where it is known locally as the Matador. A variant of the AV-8B, the British Aerospace Harrier II, was developed for the British armed forces and operated in a joint agreement by the Royal Air Force and the Royal Navy. Because of the Harrier II's unique flight characteristics, a two-seat variant, the TAV-8B, was also built for training purposes.

As a first-generation V/STOL aircraft, the Hawker Siddeley Harrier had limited capabilities, especially in the categories of range and payload. However, the unique takeoff and landing capabilities of the aircraft caught the attention of the U.S. Marine Corps, which procured it in 1968 as the AV-8A. After gaining experience flying

and operating the AV-8B, the U.S. Marine Corps began to pursue further development of the aircraft. Targets for an improved version of the Harrier included an increased weapons payload, greater range, and the installation of a more powerful Pegasus engine. Initially, the project was to be a joint venture between defense contractors in the United States and the United Kingdom. Due to defense budget constraints, the United Kingdom withdrew from the project in 1975.

Working alone, McDonnell Douglas extensively redesigned the AV-8A to create the new AV-8B. While retaining the basic layout of its predecessor, the AV-8B incorporated a new, larger composite wing with 14.5 percent more area and a 20 percent greater span with a supercritical airfoil section. The new wing supported six weapons hardpoints, and its carbon fiber structure reduced the AV-8B's weight. Additional changes included a redesigned fuselage with an elevated cockpit, aerodynamic refinements to the air intakes and other fuselage sections, and the installation of a more powerful Pegasus engine.



The design changes dramatically improved the Harrier's flight performance. The AV-8B first flew in 1981, with an initial production run ordered by the U.S. Marine Corps in 1983. The first AV-8Bs entered service with the U.S. Marine Corps in 1985. Later upgrades to the AV-8B added night attack and radar capability, resulting in the AV-8B(NA) and the AV-8B Harrier II Plus versions of the aircraft. In 1984, the United Kingdom, through defense contractor British Aerospace, rejoined the project. This cooperative agreement led to the development of the British Aerospace Harrier II variant for the Royal Navy and Royal Air Force. Following corporate mergers, Boeing and BAE Systems are support partners for the Harrier II fleet worldwide. During a 22-year production run that ended in 2003, 337 AV-8Bs were produced.

The AV-8B is typically operated from small aircraft carriers, assault ships, and forward operating areas. Since entering service, AV-8Bs have participated in numerous humanitarian and military operations, proving to be valuable assets. The AV-8B served in the 1991 Gulf War, Operation Enduring Freedom in Afghanistan, the Iraq War, and Operation Odyssey Dawn in Libya in 2011. AV-8Bs operated by Italy and Spain have participated in several overseas conflicts in cooperation with NATO

coalition forces. Harrier IIs operated by the Royal Air Force and Royal Navy have served with distinction during conflicts in Kosovo, Iraq, and Afghanistan.

Despite its impressive combat record, throughout its service life, the AV-8B Harrier II has had a high accident rate. Accidents have been attributed to pilot error and cutbacks to senior maintenance personnel who understood the aircraft and its unique maintenance needs. Accidents have also been attributed to the amount of time the Harrier II spends taking off and landing, which are considered the critical phases of flight. Due to the high accident rate, the AV-8B Harrier II had an unfairly negative reputation, especially in the U.S. press.

Citing budgetary concerns, the United Kingdom retired its Harrier II fleet in 2011. The decision was highly controversial, as the Royal Air Force and Royal Navy at the time had no replacement aircraft with the V/STOL capabilities of the Harrier II. The United Kingdom has since taken delivery of Lockheed Martin F-35B Lightning IIs to fill the Harrier II's role. The Italian Navy expects to retire the remaining AV-8B Harrier IIs in their inventory in the near future, replacing the aircraft with the Lockheed Martin F-35B Lightning II. The Spanish Navy plans to operate its AV-8B Harrier II fleet until 2030.



This angle of the Toy Zone 1/40-scale McDonnell Douglas AV-8B Harrier II highlights the colorful markings, stenciling, and decorations throughout the model. Toy Zone did an excellent job picking a striking paint scheme that would stand out well on a bookshelf or desk. Unfortunately, the company used incorrect shades for the camouflage colors, and the placement of many of the U.S. insignias on the model is incorrect.





The Toy Zone 1/40 scale McDonnell Douglas AV-8B Harrier II has several shortcomings as a model. The model, despite its large size, has an inaccurate shape, limited detail, and the only moving parts are the rolling wheels and the outrigger landing gear, which can be folded up and down. The paint and marking details are simple, with colors for the weapons that are inaccurate.

The U.S. Marine Corps began replacing the AV-8B Harrier II with the Lockheed Martin F-35B Lightning II in 2015. U.S. Marine Corps squadrons have been transitioning to the new F-35B over the last several years. Currently, only one U.S. Marine Corps squadron, Marine Attack Squadron VMA-223 “Bulldogs”, based at Marine Corps Air Station Cherry Point (MCAS), North Carolina, remains flying the AV-8B Harrier II. VMA-223 is expected to retire its AV-8Bs in September 2026 and transition to the F-35B. The U.S. Marine Corps expects to be fully divested of the AV-8B by early 2027.

This 1/40-scale die-cast and plastic model of a U.S. Marine Corps McDonnell Douglas AV-8B Harrier II was made by the toy manufacturer Toy Zone in the early to mid-2000s. Toy Zone produced and distributed die-cast toy vehicles to big-box retailers and toy stores, including Toys “R” Us and Walmart. When sold at Walmart, some of Toy Zone’s products were packaged under the name Motorworks, the in-house, generic brand name Walmart uses for some toys sold in its stores.

The AV-8B Harrier II die-cast and plastic was part of a line of die-cast toy aircraft that Toy Zone made called the “Air Power Collection”. These models were designed as entry-level, affordable die-cast replicas for older chil-

dren and adults. In addition to the AV-8B Harrier II, other notable models featured in the series included the McDonnell Douglas F/A-18 Hornet and Grumman F-14 Tomcat modern jet fighters, and the North American P-51 Mustang and Lockheed P-38 Lightning World War II fighters. The AV-8B Harrier II is 1/40 scale, and is decorated in a late 1980s or early 1990s camouflage scheme and represents an aircraft flown by Marine Attack Squadron VMA-542 “Tigers” based at MCAS Cherry Point. This squadron is now Marine Fighter Attack Squadron VMFA-542 and flies the Lockheed Martin F-35B Lightning II. Similar to other Toy Zone models, the AV-8B Harrier II included a display stand, which was assembled using the provided screws.

The Toy Zone AV-8B Harrier II featured reasonable details for an entry-level model. Decals represent maintenance and warning stenciling throughout the model. The AV-8B is also equipped with a full load of weapons on its hardpoints, including four bombs and a pair of AIM-9 Sidewinder missiles mounted on the outermost pylons. Finally, the model accurately replicates the AV-8B’s unusual landing gear configuration, including the outrigger landing gear that stabilizes the AV-8B Harrier II during takeoff, landing, and when on the ground.



Unlike most of its models, Toy Zone manufactured the AV-8B model with its landing gear in the “extended” position. Since the landing gear configuration is unstable, the model included a stand, allowing the AV-8B model to be displayed safely on a desk or bookshelf. The stand consists of a sturdy plastic base and a metal arm. Two screws are included to attach the metal arm to the plastic base. The large base of the stand and the metal arm support the model’s weight with no issue.

This AV-8B Harrier was an entry-level model available at an affordable price point. As a result, a lower level of detail is expected. Unfortunately, Toy Zone made some printing errors involving the markings when producing this model. The stand identifies the aircraft as an AV-8. The correct designation for this version of the Harrier is the AV-8B. The placement of the U.S. insignia on the fuselage is also in the wrong place, as it should be higher on the engine air intake and larger. Finally, the camouflage scheme is inaccurate. The grey and green colors should be much darker than what the model portrays. Finally, the U.S. insignia is located on the top of both wings. The insignia should be on the top of the left wing only. The top side of the right wing should have either no markings or “MARINES” in black lettering instead.

The other significant issue with this model is the landing gears and the cockpit. The landing gear has only basic detail, with no detailing for the wheels, tires, or landing gear bays. The cockpit detail is also nonexistent. There is only a plastic-molded seat and instrument panel. Other Toy Zone die-cast aircraft models in this series included a pilot figure in their cockpits, but for unknown reasons, a pilot figure was never included with this model.

For an entry-level model that was available for an affordable price point when it was released 20 years ago, Toy Zone’s AV-8B Harrier II is a simple model of the attack jet for anyone who wants something to display on their bookshelf or desk. The model’s large size and simple construction make it ideal for display in an airplane-loving child’s bedroom. Aviation enthusiasts will probably want a higher-quality model for their collections. Despite its shortcomings, Toy Zone’s AV-8B Harrier II holds a unique place in the collecting world, as it is one of the few models of the Harrier II available in die-cast in a larger scale. It is also an excellent model for entry-level collectors who want to have a replica of the revolutionary attack jet but do not want to pay the high retail prices that premium die-cast models now retail for.



Despite its shortcomings, the Toy Zone 1/40 scale die-cast McDonnell Douglas AV-8B Harrier II is an excellent, simple model of this iconic attack jet. It is the perfect type of model for an entry-level collector. It is also a great model for a child’s desk, dresser, or bookshelf. The model features quality die-cast construction and a sturdy display stand. Although it was manufactured over 20 years ago by Toy Zone, this model is still available on the secondary market for reasonable prices.



Golden Age Air Museum Photo Shoot and Workshop



A recent photo shoot and workshop held at the museum by Lerro Photography provided participants with the opportunity to photograph the Golden Age Air Museum aircraft and vehicle collection in day and evening settings, including scenes featuring living history reenactors.

Golden Age Air Museum President Paul Dougherty flies the museum's 1918 Fokker Dr.I Triplane replica during the recent Lerro Photography photo shoot and workshop held at the museum. The Triplane is painted in the colors of World War I German ace Lothar von Richthofen, the brother of German ace Manfred von Richthofen, more famously known as "The Red Baron".





Living history reenactors (from left to right) Michael Reis, Ricky Ricardo, Raquel Palmer, Morgan Loud, Aleah Ann Augustine, Gabriella Kuhns, and Chris Kuhns pose for a group photo next to a 1927 Ford Model TT "Henry" during the Golden Age Air Museum photo shoot and workshop hosted at the museum on October 18, 2025, by Lerro Photography.

Located near the town of Bethel and the Blue Mountain Ridge in Berks County, Pennsylvania, the Golden Age Air Museum was established by the Dougherty family at the Grimes Airfield in 1997. The museum is dedicated to collecting and restoring aircraft, aero engines, automobiles, and other artifacts from the "Golden Age of Aviation". This period in aviation history saw incredible advances in aircraft design, with airplanes evolving from wood-frame-and-fabric-covered biplanes with open cockpits to all-metal monoplanes with retractable landing gear. The era was also notable for the exploits of several famous aviators, whose record-breaking flights captured public imagination worldwide.

Since its creation in 1997, the Golden Age Air Museum collection has grown to over 30 aircraft, several automobiles, and hundreds of smaller items of aviation memorabilia. In recent years, the museum staff and volunteers have expanded the museum's collection by building replicas of World War I fighter aircraft and accepting donations of vintage aircraft. Throughout its

operating season, the museum hosts public events, such as fly-ins and living history weekends.

On October 18, 2025, Lerro Photography hosted a photo shoot and workshop at the Golden Age Air Museum. Owned and operated by Peter Lerro, Lerro Photography hosts photo shoots and workshops at national parks, historic sites, and transportation museums. These events often feature living history reenactors posed with vehicles such as aircraft, trains, and automobiles to recreate historical scenes captured in vintage photographs. Lerro Photography photo shoots double as workshops, with Peter Lerro providing instruction and tips to attending photographers about lighting, poses, and camera settings.

This feature highlights some of my photographs from the Lerro Photography Golden Age Air Museum Photo Shoot. Additional information about Lerro Photography and its upcoming photo charters is available at www.lerrophotography.com. Information about the Golden Age Air Museum and its collections can be found at www.goldenageair.org.



The Lerro Photography Golden Age Air Museum photo shoot and workshop began in the early afternoon hours, with reenactors posing for photos next to aircraft and automobiles from the Golden Age Air Museum collection. In this picture, reenactor Ricky Ricardo, dressed as an aviator in the 1930s, poses for photos with the 1987 Williams Waco RTO. This airplane is an 8/10-scale replica of the 1930s Waco Taperwing. This airplane was donated to the museum for its collection in October 2023.



The newest addition to the Golden Age Air Museum's World War I aircraft collection is this replica of a 1918 SPAD S.XIII French fighter. The S.XIII was built by museum volunteers over a period lasting more than 10 years. The S.XIII is painted in the personal colors and markings of American World War I ace Charles Biddle. Since its completion, the S.XIII replica has been flown during numerous public events held at the Golden Age Air Museum. In this photo, reenactor Chris Kuhns poses with SPAD S.XIII.





Another World War I airplane in the Golden Age Air Museum's collection is the 1918 Fokker Dr.I Triplane replica. The Triplane is a favorite when flown at Golden Age Air Museum public events throughout the museum's operating season. Unfortunately, the Triplane's design is susceptible to crosswind and breezy conditions, which limit when it can be flown at museum events. In this photo, reenactor Andrew Beard is posing with the Triplane during the afternoon session at the photo shoot and workshop.

During the Lerro Photography Golden Age Air Museum event, some aircraft from the museum collection were flown on short flights. One of the aircraft getting some flight time was the 1932 Pietenpol Air Camper. The Air Camper was designed in 1929 by Bernard Pietenpol, who wanted to prove that a simple, successful airplane could be built around an automobile engine. Since the Air Camper's plans were first published in 1932, thousands of these aircraft have been built by amateur homebuilders.



The Golden Age Air Museum also has an excellent replica of a 1916 Sopwith Pup in its aircraft collection. While accurate in outline and appearance, the Pup was built from steel tubing rather than wood for ease of construction, and the aircraft is powered with a modern Lycoming O-320 engine for safety and easier maintenance. The Pup is flown regularly at events during the museum's operating season. In this picture, reenactor Michael Reis, dressed as a World War I pilot, poses with the Pup.



Another aircraft in the Golden Age Air Museum collection that was exercised with flight time during the event was the museum's Aeronca C-3 Master. Nicknamed "The Flying Bathtub" because of its unusual shape, the C-3 was designed as a simple airplane and was perfect for people looking to get into flying. The C-3 was easy to fly and had excellent low-speed handling gliding characteristics. Many new pilots were capable of soloing the C-3 with as little as five hours of flight instruction.





The museum's automobile collection was also part of the Lerro Photography Golden Age Air Museum photo shoot and workshop. One of the vehicles in the museum collection is this 1930 Ford Model A Roadster. Introduced in 1927 as a 1928 model to replace the Model T, the Ford Model A was produced in nine different body styles during its production run, which lasted from 1927 to 1932. Here, reenactors Morgan Loud and Raquel Palmer, dressed as civilians, pose with the Model A Roadster.

Another vehicle in the Golden Age Air Museum's collection that was part of the photo shoot and workshop was the museum's 1923 Studebaker Light Six. The Studebaker Light Six was Studebaker's least expensive model with a six-cylinder engine. The Light Six was a practical and reliable automobile that helped expand Studebaker's market share during the early 1920s. In this photo, reenactor Aleah Ann Augustine poses for a picture while sitting on the running board of the Studebaker Light Six.



There was a surprise participant for some of the photo opportunities during the Lerro Photography Golden Age Air Museum photo shoot and workshop. "Obi" is owned by Golden Age Air Museum President Paul Dougherty and often hangs around the museum grounds during special events. "Obi" was interested in all the friendly people around and decided he wanted to join reenactors Gabriella Kuhns and Aleah Ann Augustine for a photo opportunity with the 1923 Studebaker Light Six.



Reenactors Gabriella Kuhns and Aleah Ann Augustine pose for a photo with the 1923 Studebaker Light Six. The Light Six was produced by Studebaker as its entry-level automobile from 1918 to 1927. The Light Six went through several design and style changes during its long production run. In mid-1923, the unreliable aluminum engine head was replaced with a conventional, and more reliable, cast-iron head. During the 1923 model year, the wood and steel body was changed to an all-steel body.





One of the highlights of the Lerro Photography Golden Age Air Museum photo shoot and workshop was the afternoon flight demonstrations of some of the aircraft in the museum collection. The first aircraft to fly was the museum's 1917 Curtiss JN-4D "Jenny". The museum's "Jenny" is one of only a handful worldwide that remain in airworthy condition. The "Jenny" was designed for flight training and used extensively during World War I to train American, Canadian, and British pilots.

Although it was used in large numbers as a trainer during World War I, the "Jenny" is more famous for its postwar use. Hundreds were sold as surplus to pilots returning home from the war. The "Jennys" were used throughout the country by pilots for barnstorming, performing in flying circus-style airshows, and hauling mail. The museum's "Jenny" is painted in the colors of an example flown by famous barnstormer and Hollywood stunt pilot Earl S. Daugherty from Long Beach, California.



One of the real treats for aviation photographers at the Golden Age Air Museum photo shoot and workshop was a flight demonstration of the 1926 Winstead Special. The Winstead Special is one of the rarest aircraft in the Golden Age Air Museum's aircraft collection. The one-of-a-kind airplane was built by brothers Carl and Guy Winstead in Wichita, Kansas, in the mid-1920s. The Winstead Special is powered by a Curtiss OX-5 engine, the same powerplant used in the iconic Curtiss JN-4 "Jenny".



The Winstead Special was used for barnstorming, air racing, and flying circus work throughout the late 1920s. Carl Winstead flew the Winstead Special with the "Flying Aces Air Circus", and female wing walker Jesse Woods walked on its wings. The Winstead Special was eventually sold and passed through several owners during the 1930s before being placed into long-term storage in 1937. The Golden Age Air Museum acquired the aircraft in the mid-1990s and restored it over a period of four years.





During his photo shoots and workshops, Peter Lerro strives to recreate moments seen in historic photographs. During the barnstorming era, pilots were typically greeted by curious people on the ground when they arrived at a town to sell rides or perform in an airshow. In a recreation of such a scene, reenactors posed next to the Golden Age Air Museum's 1927 Ford Model TT "Henry", wave to museum President Paul Dougherty as he flies over them in the 1932 Taylor E-2 Cub.

The Taylor E-2 Cub was designed in 1930 by C.G. Taylor as a small, simple, light, utility aircraft for flight training and personal use. It was the first of a long line of light aircraft models to carry the "Cub" name. The E-2's simplicity, gentle flying characteristics, and affordability made it popular with pilots. The Golden Age Air Museum's E-2 Cub was acquired for the museum collection in 1991 after spending nearly 50 years in storage. The E-2 Cub was restored to air-worthy condition over a period of three years.



Also taking to the sky during the Lerro Photography Golden Age Air Museum photo shoot and workshop was the museum's 1918 SPAD S.XIII replica. The SPAD S.XIII was developed near the end of World War I and was one of the most capable fighter aircraft of the war, being fast, well-armed, and sturdily built. By the end of World War I, the SPAD S.XIII equipped nearly every French squadron. SPAD S.XIIIs were also widely used by U.S. Army Air Service squadrons during the last year of the war.



The SPAD S.XIII was flown by several notable aces during World War I, including French aces René Fonck, Georges Guynemer, and Charles Nungesser. It was also flown by notable Italian ace Francesco Baracca and famous American aces Eddie Rickenbacker and Frank Luke Jr. The Golden Age Air Museum's replica S.XIII is painted in the colors of American ace Charles Biddle. Biddle scored seven victories during the war and returned home to start a career in law and write his memoirs.





At the start of World War I, the primary role of aircraft was engaging in reconnaissance, observing the movements of enemy troops and artillery. The Golden Age Air Museum honors this legacy of World War I aviation with the 1917 Rumpler C.V. replica that is part of its collection. This replica of the Rumpler C.V. was built in England using a large number of parts from a de Havilland Tiger Moth. This replica aircraft was built for a movie titled "Biggles Sweeps The Skies" that was never finished.

Gerry Wild flies the 1917 Rumpler C.V. in a flight demonstration during the photo shoot and workshop event. The Rumpler C.V. was one of Germany's most successful reconnaissance aircraft during World War I, and was capable of flying at high altitudes where most enemy fighter aircraft could not intercept it. This replica was built by Slingsby Aircraft for film work. Although visually similar to the original aircraft, they were structurally different, being based on the de Havilland Tiger Moth trainer.



The Sopwith Pup entered service with the Royal Flying Corps and the Royal Naval Air Service in the autumn of 1916. The Pup had pleasant flying characteristics and good maneuverability. As a result, it was an instant success. In 1917, newer German fighter aircraft were developed that outclassed the Pup, so surviving examples were relegated to Home Defence and training units. The Pup was also used extensively for aircraft carrier flight deck landing and takeoff trials and training.



Mike Damiani flies the Golden Age Air Museum's Sopwith Pup replica during the photo shoot and workshop event. The Pup is flown regularly at the museum during public events. The aircraft is equipped with a smoke system so that during flight demonstrations at Golden Age Air Museum events, it can be "shot down" by the Fokker Dr.I Triplane replica. The Pup carries the markings of Canadian ace James Alpheus Glen, who scored four of his victories flying a Sopwith Pup named "Mildred H".





The final aircraft flown during the Lerro Photography Golden Age Air Museum photo shoot and workshop was the museum's 1918 Fokker Dr.I Triplane replica. One of the most famous aircraft from the World War I era due to its association with Manfred von Richthofen, "The Red Baron", the Dr.I Triplane entered widespread service in the spring of 1918. The Dr.I Triplane was flown with great success by many German aces in World War I, including Josef Jacobs, who had 30 confirmed kills with the type.

The Golden Age Air Museum's Fokker Dr.I Triplane replica is unusual in that it is powered by an original and rare Le Rhône rotary engine from the World War I era. The airplane itself was built from scratch by museum staff and volunteers. The Dr.I Triplane replica carries the colors and markings of German ace Lothar von Richthofen. The brother of Manfred von Richthofen, "The Red Baron", Lothar was an accomplished pilot in his own right, scoring 40 confirmed victories and surviving the war.



After the flying activities, there were a few minutes of daylight left for some additional reenactor photos at the Lerro Photography Golden Age Air Museum photo shoot and workshop. Reenactor Raquel Palmer changed outfits and posed for pictures next to the museum's beautiful 1917 Curtiss JN-4D "Jenny". Palmer's interpretation of a 1920s or 1930s aviatrix and her poses next to beautiful "Jenny" were a highlight of the event for many of the photographers in attendance.



During the photo shoot with reenactor Raquel Palmer and the 1917 Curtiss JN-4D "Jenny", "Obi" once again decided to show up and take an interest in the activities. With some coaxing from "Dad", Golden Age Air Museum President Paul Dougherty, "Obi" was convinced to sit next to Palmer as she posed with the "Jenny". Many barnstorming pilots during the 1920s and 1930s had pets that traveled with them in their aircraft from town to town. This was one of the great photo opportunities of the event.





In mid-October in Pennsylvania, the daylight fades quickly in the early evening. As a result, there was a sense of urgency for the photographers at the Lerro Photography Golden Age Air Museum photo shoot and workshop to get photos of the reenactors before darkness fell over the museum grounds. In this photo, Gabriella Kuhns, Raquel Palmer, and Aleah Ann Augustine, all portraying pilots from the 1920s or 1930s, pose with the museum's 8/10-scale Williams-Waco RTO Taperwing replica.

With its wooden propeller, uncowed radial engine, spatted landing gear, and bright color scheme, the Golden Age Air Museum's 8/10-scale Williams-Waco RTO Taperwing replica was a popular photo subject during the event. Morgan Loud also switched outfits to a portrayal of a 1930s businessman in an outfit similar to what aviation engineer and film producer Howard Hughes might have worn. In this photo, Loud poses next to the 8/10-scale Williams-Waco RTO Taperwing replica in the fading daylight.



After a brief break, it was time for the evening portion of the Golden Age Air Museum photo shoot and workshop. The evening portion of the event featured 14 aircraft from the museum collection performing engine runs. The first aircraft run for the evening shoot was the 1929 Waco GXE. The museum uses this airplane for sightseeing rides, which are sold at museum events and also available by appointment. The GXE was positioned to capture the fading daylight in the sky as its engine was run.



The second aircraft staged for an engine run was the museum's 1932 Taylor E-2 Cub. Unfortunately, the E-2 Cub's small Continental A-40 four-cylinder engine did not like the cooler temperatures of the evening, and the Golden Age Air Museum staff had a challenging time keeping the E-2 Cub running for an extended time. Fortunately, Golden Age Air Museum President Paul Dougherty was able to get the airplane running for a few minutes for the photographers in attendance to take some pictures.





An aircraft in the Golden Age Air Museum collection, photographed only during the evening session, was the 1930 Great Lakes biplane replica. Great Lakes biplanes were manufactured in Cleveland, Ohio, from 1928 until the mid-1930s, with the most popular model being the 2T Sport Trainer. For over 30 years, the Great Lakes Sport Trainer was the top American-made aerobatic airplane. It was the preferred aircraft of choice for many top aerobatic pilots in the United States for several years.

One of the aircraft that really stood out against the night skies during the evening portion of the shoot was the museum's 1987 Williams-Waco 8/10-scale RTO Straight-wing replica with its orange, cream, and black paint scheme. The airplane was donated to the Golden Age Air Museum in 2023 and has been flown regularly during public and special events at the museum since then. The Golden Age Air Museum pilots report that the airplane flies great and that they all enjoy flying it.



Next in line for an engine run in the evening session of the Lerro Photography Golden Age Air Museum photo shoot and workshop was the 1932 Pietenpol Air Camper. Plans for the Air Camper first appeared in the "Flying and Glider Manual", published by "Modern Mechanics" magazine, in 1932. The magazine article advertised a cost of \$500 to build and fly an Air Camper. The museum's Air Camper was built using original plans and is powered by the engine from a Ford Model A automobile.



Due to its small size and unique shape, the Aeronca C-3 Master was challenging to photograph during the evening session of the Lerro Photography Golden Age Air Museum photo shoot and workshop. The C-3 Master, priced at just \$1,895 in 1935, was an affordable price for new pilots buying their first airplane. Items now standard on modern light aircraft, such as brakes and a wing light, were optional extras. Aeronca built 400 C-3s during the mid-1930s before production ended in 1937.





One of the highlights of the evening session of the photo shoot and workshop was the 1926 Winstead Special being a part of the aircraft lineup. Although there was some trouble with getting its OX-5 engine started in the cooler evening temperatures, the red fuselage, silver wings, and metal engine cowling really looked sharp under the lights. Like so many aircraft built during the Golden Age of Aviation, the Winstead Special was a one-off, with only one example built by the Winstead brothers.

Another highlight of the evening portion of the photo shoot and workshop at the Golden Age Air Museum was the opportunity to photograph the museum's collection of World War I replica aircraft at night. The first aircraft to have its engine run was the 1916 Sopwith Pup replica. The Pup is less well known than its successor, the Sopwith F.1 Camel, but was a successful fighter in the early years of World War I. It had a good rate of climb, excellent maneuverability, and was a pleasant aircraft to fly.



The latest addition to the Golden Age Air Museum's fleet of World War I replica aircraft is this 1918 SPAD S.XIII fighter. The S.XIII is considered one of the most capable fighter aircraft of World War I, as it had a powerful engine, was fast, well-armed, and sturdy. In addition to becoming the standard French fighter aircraft in the last year of the war, SPAD S.XIIIs were used extensively by U.S. Army Air Service squadrons and in smaller numbers by British and Italian squadrons.



During the evening portion of the Lerro Photography Golden Age Air Museum photo shoot and workshop, there was also an opportunity to photograph several reenactors with the aircraft in an evening setting. These pictures were taken as the Golden Age Air Museum staff moved aircraft into position for engine runs and put aircraft away in the hangars. In this photo, Gabriella Kuhns, portraying a YMCA Canteen Volunteer, poses with the 1918 SPAD S.XIII replica after its engine run session.





The Golden Age Air Museum's Curtiss JN-4D "Jenny" is one of the truly historic aircraft in the museum collection. The iconic "Jenny" epitomizes the Golden Age of Aviation and is one of America's most well-known early airplanes. The "Jenny" was used throughout the 1920s for flight training, hauling mail, flying airshow acts, wing walking, and barnstorming. Subjected to tough and continuous use by their pilots, many "Jennys" wore out in service and did not survive past the early 1930s.

Portraying a pilot from the 1920s or early 1930s, reenactor Ricky Ricardo poses with the 1917 Curtiss JN-4D "Jenny" for an evening photo. Peter Lerro from Lerro Photography does an incredible job bringing museum vehicles to life by including living history reenactors in many of his photo workshops. Throughout the workshop, all the reenactors in attendance were excellent to work with and added a sense of realism to many of the aircraft in the museum collection that were photographed.



As the evening session drew to a close at the Lerro Photography Golden Age Air Museum photo shoot and workshop, the two German World War I replica aircraft in the museum collection performed engine runs for the photographers. The 1917 Rumpler C.V and 1918 Fokker Dr.I Triplane replicas were run simultaneously for the evening photo session as the event was nearing its scheduled end time. These two aircraft are aviation enthusiast favorites when flown at Golden Age Air Museum public events.



The 1931 Bird CK was the third generation of the Bird biplane and was built in Brooklyn, New York, by the Bird Aircraft Corporation. The airplane was unique in that it had a front cockpit with room for three passengers, and was designed specifically for barnstorming. This airplane joined the Golden Age Air Museum collection in 2001. It served as the museum's sightseeing biplane ride aircraft until 2008. In this night photo, some blue exhaust flames are visible from the Kinner B5 radial engine.





Joining the Bird CK biplane for the last engine run of the evening session was the 1930 Fleet Model 7 owned by Golden Age Air Museum historian Michael O'Neal. The Fleet Model 7 was designed as a two-seat training aircraft. Initially designed for the American civil market, a large number of Fleet Model 7s were built for the Royal Canadian Air Force as trainers, where they were known as the Fawn. Some of these aircraft were still in service as trainers when World War II began.

The Lerro Photography Golden Age Air Museum photo shoot and workshop would not have been possible without the assistance of the museum staff and volunteers. Led by President Paul Dougherty, the museum staff and volunteers flew airplanes, moved airplanes, and automobiles around the grounds during the event. Here, the museum staff and volunteer team pose for a group photo after a day of hard work, helping to make the Golden Age Air Museum photo shoot and workshop a complete success.



Douglas SBD-6 Dauntless



The National Air and Space Museum's Douglas SBD-6 Dauntless was the sixth SBD-6 model produced and spent its entire operational career as a test aircraft. This SBD was the last example of the Dauntless in U.S. Navy service when it was retired in 1948. In these pictures, the SBD-6 hangs in the Air-Sea Operations gallery in the National Air and Space Museum's National Mall location. After spending over 40 years displayed in this gallery, the SBD-6 has been relocated to the new Jay I. Kislak World War II in the Air gallery, opening in the flagship building in 2026.

The Douglas SBD Dauntless (often referred to simply as the "SBD" by its crews) dive bomber played a significant role in the course of World War II. Considered obsolete before the war began, the SBD Dauntless soldiered on until more modern types entered service. Earning the nickname "Slow But Deadly" from its crews, SBDs would sink more than 300,000 tons of enemy shipping during the war, which included at least 18 warships.

In 1934, the Bureau of Aeronautics held a design competition for a new dive bomber. The U.S. Navy wished to replace its main aircraft types with all-metal monoplane aircraft. In the dive bomber category, Vought, Brewster, and Northrop had proposed designs chosen for future development. The Brewster design was quickly eliminated from consideration, as the company lacked the manufacturing capacity to meet the U.S. Navy's production requirements. The Vought design was developed into the SB2U Vindicator dive/scout bomber. The Vindicator was widely considered a stopgap design until more modern aircraft became available.

Designed by Northrop's chief engineer Ed Heinemann,

the Northrop entry was designated the XBT-1. In an effort to save weight, the XBT-1 lacked folding wings, a feature that would soon become standard on all carrier-based aircraft. An innovative feature of the XBT-1 was its perforated dive flaps, which prevented buffeting during dives at steep angles. The U.S. Navy ordered 54 production examples of the XBT-1, designated the BT-1.

Unfortunately, the BT-1 had stability problems and was underpowered. Northrop agreed to continue working on the design and developed a second prototype, the XBT-2. The XBT-2 featured a 1,000-horsepower Wright R-1820-32 engine, which boosted the BT-1's previous top speed by 35 miles per hour (56 km/h) to 247 miles per hour (398 km/h). The new XBT-2 also featured retractable landing gear. During the XBT-2's development, Douglas took over the Northrop contract and bought its El Segundo, California, factory. Many of the Northrop employees working on the XBT-2 moved with the project to Douglas. The change in manufacturers revised the XBT-2's designation to the XSBD-1. The U.S. Navy ordered 144 SBD-1s in April 1939.



The initial production SBD-1s were not combat-ready as they lacked the range for effective use from an aircraft carrier. Douglas agreed to address the problem and did so with the SBD-2 variant of the Dauntless. Douglas began delivering the SBD-2 variant starting with the 58th production aircraft from the original contract. The SBD-2 featured additional fuel tanks, which increased range to 1,200 miles (1,931 km), and was equipped with an autopilot, making long-distance, over-water flights possible. The SBD-1 and SBD-2 were the variants of the Dauntless in service when the Japanese attacked Pearl Harbor in December 1941.

Deliveries of a new variant of the Dauntless, the SBD-3, were stepped up after the Pearl Harbor attack. The SBD-3 was the main variant used in the major battles in the Pacific Theater in 1942. The SBD-3 featured several design changes learned from combat experience. Self-sealing fuel tanks, an armored windshield, and crew armor were introduced on this variant. This version of the SBD also introduced twin .30-caliber machine guns in the rear cockpit for increased defensive firepower. The

additional equipment on the SBD-3 decreased its top speed to 250 miles per hour (402 km/h), earning it the nickname "The Speedy Three".

The new SBD-3s, along with some remaining SBD-2s and SBD-1s still in service, played a pivotal role in the United States claiming victory at the Battle of Midway in June 1942. In an unbelievable stroke of good luck, Dauntlesses from VS-6 and VB-6 from the *U.S.S. Enterprise*, and VB-3 from the *U.S.S. Yorktown* found the Japanese aircraft carriers, as their decks were full of aircraft being refueled and rearmed. The protective fighter screen of the Japanese fighter aircraft had also been drawn down to low level by unsuccessful attacks by American torpedo bombers and land-based bombers from Midway Island. In the course of a few minutes, 39 bombs fell on three Japanese aircraft carriers, with 11 direct hits mortally damaging them. Later, a fourth Japanese carrier was located and sunk by SBDs. The loss of four Japanese aircraft carriers, their aircraft, and most of their experienced aviators changed the tide of the war in the Pacific Theater in favor of the United States.





In addition to its role in the Pacific Theater, the SBD Dauntless also served in a limited capacity in the Atlantic Theater. In November 1942, Dauntlesses from the *U.S.S. Ranger* and the escort carriers *U.S.S. Santee* and *U.S.S. Sangamon* flew missions in support of Operation Torch, the Invasion of North Africa. In this campaign, SBDs were used mostly against ground targets, but also attacked seven Vichy French cruisers that set out to attack Allied troopships. Nine SBDs also sank the moored French battleship *Jean Bart*, which had been firing on the invasion fleet, on November 10. SBDs from the *U.S.S. Santee* also participated in anti-submarine patrols in the Atlantic in 1943. SBDs operated by the U.S. Marines Corps flew patrols from the Virgin Islands until 1944.

Douglas continued to modify the Dauntless throughout the war to improve its performance. The SBD-4, introduced in late 1942, featured an improved 24-volt electrical system for the installation of radar and a new Hamilton-Standard Hydromatic propeller. Early in 1943, the SBD-5 entered service. This version of the Dauntless introduced a more powerful engine and a re-

flector gunsight with a heated windscreen, which improved bombing accuracy. The SBD-5 was the most produced variant of the Dauntless. The SBD-6, which introduced an even larger engine, increased the dive bomber's top speed to 262 miles per hour (422 km/h) and its service ceiling to 28,600 feet (8,717 m), but remained relatively unchanged from the SBD-5, was the final production variant. By the time the SBD-6 entered service, the faster Curtiss SB2C Helldiver had largely replaced the SBD Dauntless in frontline service. Most SBD-6s built were used in service stateside for training.

In 1943, the Curtiss SB2C Helldiver was introduced into service on the larger Essex-class aircraft carriers. The Helldiver was plagued with technical problems and was difficult to maintain, so its introduction into service was slow. Many U.S. Navy pilots preferred the Dauntless, which was easier to fly. The SBD remained in U.S. Navy frontline service until 1944, when it participated in its last missions during the attack on Guam. The U.S. Marines Corps continued to use the SBD in limited roles until the end of World War II.



The SBD Dauntless was also used by the U.S. Army Air Forces (USAAF). Limited experience with dive bombers led the USAAF to place orders for the U.S. Navy SBD. In USAAF service, the aircraft was known as the A-24 Banshee. For use from land bases, the A-24 Banshee had a larger pneumatic tailwheel and no tailhook installed. Due to a lack of specialized training, the idea of dive bombing was not successful or widely supported in the USAAF. By mid-1943, all A-24 Banshees in USAAF service were relegated to non-combat roles.

Variants of the SBD were also used during World War II by the Royal New Zealand Air Force in the Solomon Islands and the Free French Air Force in Europe. In 1949, French Navy SBDs were used to carry out attacks on Communist terrorists in Indo-China. Mexico also flew several ex-USAAF A-24 Banshees for patrol missions in the Gulf of Mexico during World War II. After the war, these aircraft were flown on border patrol missions until 1959. The Chilean Air Force also operated a small number of ex-USAAF A-24B Banshees.

The SBD-6 Dauntless in the National Air and Space Mu-

seum's collection was the sixth SBD-6 model produced. The aircraft spent its entire operational career at Naval Air Station (NAS) Patuxent River, Maryland, as a test aircraft. At NAS Patuxent River, the SBD-6 was used for tactical tests from August to September 1944, and flight tests from October 1944 to April 1948. In May 1948, the SBD-6 was placed into storage at NAS Weeksville in North Carolina. Stricken from U.S. Navy inventory on June 30, 1948, the SBD-6 was set aside for the Smithsonian Institution aircraft collection.

The SBD-6 was officially added to the Smithsonian Institution's aircraft collection in 1961. In 1975, the SBD-6 was restored, and in 1976, it was placed on display in the new *Sea-Air Operations* gallery at the newly opened National Air and Space Museum on the National Mall. The SBD-6 hung on display above the *Sea-Air Operations* gallery for over 40 years. As part of the renovation of the National Air and Space Museum's flagship location on the National Mall, the SBD-6 has been relocated to the new *Jay I. Kislak World War II in the Air* gallery, which is scheduled to open in 2026.



Taylor E-2 Cub

(1930)



The Taylor E-2 Cub is a small, simple, light utility aircraft designed by C.G. Taylor in 1930 for flight training and personal use. The E-2 Cub is considered to be the forefather of the iconic Piper J-3 Cub light aircraft. Initially powered by a 20-horsepower Brownback Tiger Kitten engine, "The Cub" failed to lift off the ground as the small engine did not provide enough power. In 1931, "The Cub" finally showed respectable performance when a Continental Motors A40-2 engine was installed in the aircraft. Although sales were initially slow, the E-2 Cub's simplicity, pleasant flying characteristics, and affordable price caught the attention of pilots, and C.G. Taylor began selling E-2 Cubs for \$1,325 each. When E-2 Cub production ended in 1936, the Taylor Aircraft Corporation had built 353 E-2 Cubs at its factory in Bradford, Pennsylvania.

Taylor E-2 Cub

Crew: 1

Passenger Capacity: 1

Length: 22 ft 6 in (6.86 m)

Height: 6 ft 6 in (1.98 m)

Wingspan: 35 ft 2 in (10.72 m)

Wing Area: 184 sq ft (17.1 m²)

Powerplant: Continental A40-2 or A40-3 four-cylinder air-cooled horizontally-opposed piston engine (x1)

Range: 196 nmi (362 km)

Maximum Speed: 80 mph (130 km/h)

Cruise Speed: 70 mph (110 km/h)

Empty/Gross Weights: 510/925 lb (232/420 kg)

Service Ceiling: 12,000 ft (3,658 m)



Forefather Of The Iconic Piper Cub

Namesake

The Taylor E-2 Cub originated from the plan to use the Brownback Tiger Kitten engine to power the aircraft. C.G. Taylor's accountant, Gilbert Hadrel, was inspired to name the aircraft "The Cub" since a tiger's offspring is called a cub. The name stuck with the aircraft as its design evolved and its performance improved. When C.G. Taylor broke with the Taylor Aircraft Corporation, the Cub design and name stayed with the new company, now named Piper Aircraft, and would evolve to become the famous Piper J-3 Cub.

Cockpit

The Taylor E-2 Cub's cockpit provided accommodations for a pilot and passenger in a tandem seating arrangement, as this was thought to be ideal for flight instruction. As the E-2 Cub was designed for flight training, flight controls were provided for each seat. The control stick for the front seat is detachable when a passenger is carried aboard. Instrumentation in the cockpit included an altimeter, tachometer, oil pressure gauge, and oil temperature gauge. When used for flight instruction, the student typically sat in the front seat with the instructor in the rear seat. When flying an E-2 Cub solo, pilots always fly from the rear seat to maintain a proper center of gravity. Although the cockpit had a windshield, the sides were left open. A door for entry and exit was located on the right side of the cockpit. Additional standard cockpit equipment included with a new E-2 Cub included a tool kit, a first aid kit, and a pilot's logbook. On later production E-2 Cubs, fold-down side windows were offered as an aftermarket option, but their installation was uncommon.

Wings

The E-2 Cub's wings were constructed of wood, with the structure consisting of spruce spars and aluminum-alloy ribs covered with fabric. The narrow-chord ailerons were operated by rods and torque tubes. The wings were mounted high above the fuselage and externally braced with a system of steel-tube struts. These struts also form the framework for the cockpit.



Fuselage & Tail Structure

The fuselage of the Taylor E-2 Cub was a rectangular structure made of steel tubes welded together. Similar to the wings, the E-2 Cub's fuselage was covered with fabric. This construction method provided a strong but lightweight frame for the aircraft. The tail structure was a standard design for a monoplane aircraft, having a welded steel-tube framework covered with fabric. The tail unit control surfaces are unbalanced.

Landing Gear

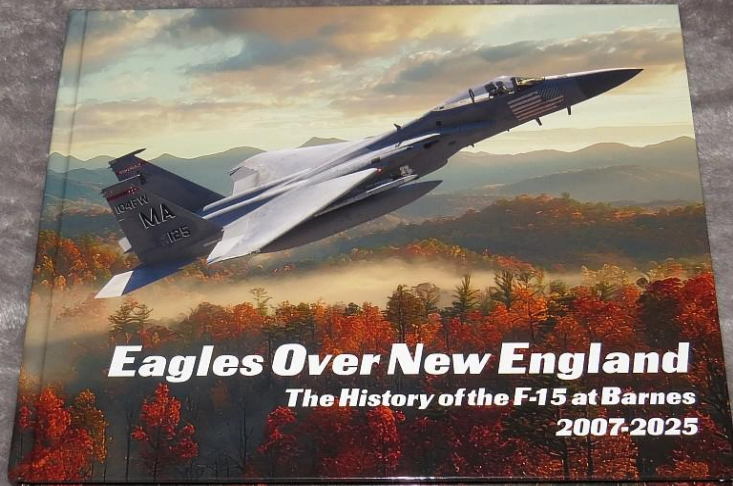
The landing gear was a conventional layout with the main landing gear being a divided design consisting of two vees, twin axles, and bungee cord shock absorbers. The E-2's small main landing gear wheels were cast from aluminum and mounted on roller bearings. The tailskid was non-steerable and made of two-leaf spring steel, allowing it to sustain the frequent ground impacts of takeoffs and landings. Brakes and a steerable tailwheel were available as optional upgrades on late-production E-2s at an additional cost.

Engine

Initially, finding an engine that was inexpensive and could provide enough power to give the E-2 Cub respectable performance was a challenge. The first engine installed, a 20-horsepower Brownback Tiger Kitten, did not provide enough power to get the E-2 Cub off the ground. A French-built Salmson AD-9 radial engine provided the necessary performance, but was expensive to maintain, and its metric measurements were a nightmare for mechanics. Eventually, the 35-horsepower Continental A40-2 four-cylinder engine proved to be a suitable powerplant for the aircraft. In later production E-2 Cubs, the slightly more powerful and reliable 40-horsepower Continental A40-3 engine was installed. The engine typically drove a two-blade, fixed-pitch wooden Sensenich propeller. The fuel tank was located behind the engine and protected by a firewall. The total fuel capacity was nine gallons (34 L).



New Book Celebrates 104th Fighter Wing's F-15 Operations



A new book published by the Thunderbolt Council Inc., "Eagles Over New England: The History of the F-15 at Barnes 2007-2025", celebrates in photographs the 104th Fighter Wing of the Massachusetts Air National Guard's operation of the McDonnell Douglas F-15 Eagle fighter over the last 18 years. All proceeds raised from the book by the Thunderbolt Council Inc. go toward events and activities to support the men and women of the 104th Fighter Wing.

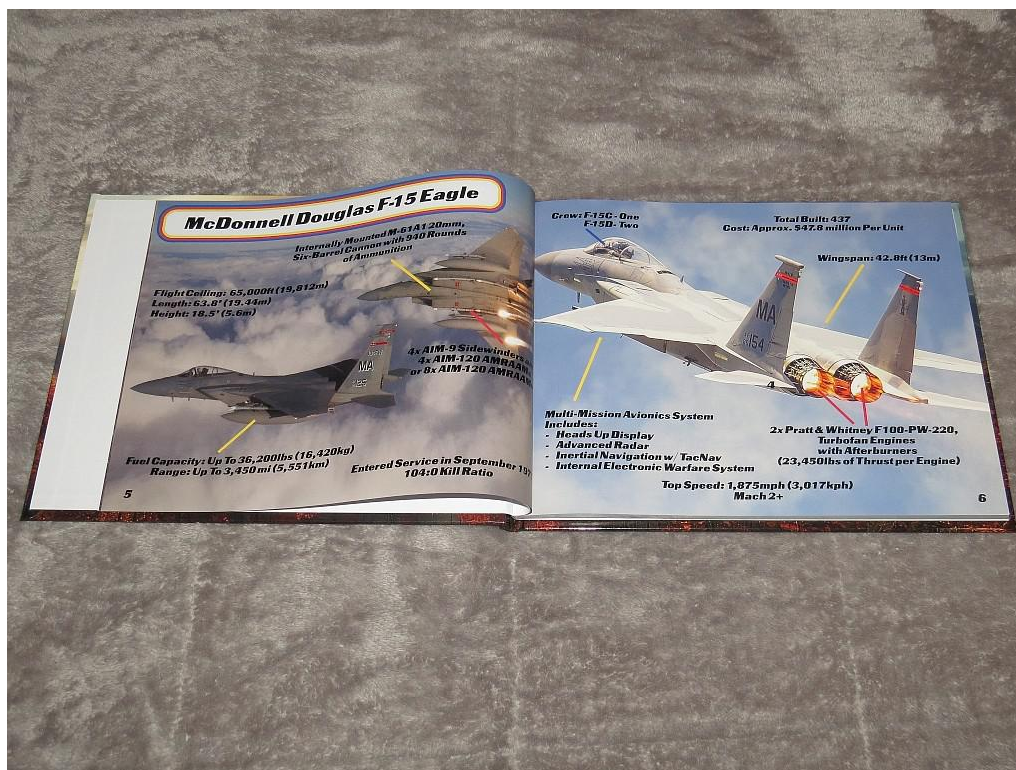
The McDonnell Douglas F-15 Eagle is a twin-engine, all-weather fighter aircraft designed by McDonnell Douglas during the late 1960s and early 1970s as a dedicated air superiority fighter. Entering service in 1976, the F-15 Eagle replaced the F-4 Phantom II as the principal air superiority fighter of the U.S. Air Force and numerous U.S. allies during the late Cold War. The F-15 Eagle is considered one of the world's most successful modern fighter aircraft, and was built in single-seat air superiority variants, the F-15A/C, and two-seat trainer variants, the F-15B/D. The basic F-15 design led to the development of a strike derivative, the F-15E Strike Eagle, which entered service in 1989. Production of advanced variants of the F-15, based on the F-15E Strike Eagle platform, for foreign nations and the U.S. Air Force, is ongoing. Surviving examples of the F-15C and F-15D variants of the Eagle remaining in service are being retired from the U.S. Air Force inventory over the next few years, replaced by the new Boeing F-15EX Eagle II or the Lockheed Martin F-35A Lightning II.

In recent years, the F-15 Eagle has been assigned to Air National Guard units throughout the United States, where it continues to operate as an air superiority fighter in the air defense of the continental United States. The 104th Fighter Wing of the Massachusetts Air National Guard began operating the F-15C and F-15D variants of the Eagle in 2007. After operating the F-15C and F-15D from the Barnes Air National Guard Base in Westfield, Massachusetts, for 18 years, the 104th Fighter Wing recently completed its mission flying the iconic Eagle on September 30, 2025. The unit will transition to the Lockheed Martin F-35A Lightning II over the next few years.

A new book, *Eagles Over New England: The History of the F-15 at Barnes, 2007-2025*, commemorates F-15 Eagle operations by the 104th Fighter Wing. The Thunderbolt Council Inc., a nonprofit organization that supports the personnel of the 104th Fighter Wing, published the book. The 104-page book features photos and a brief history of most F-15 airframes that served with the 104th Fighter Wing. Additional features of the book include photographs of the 104th Fighter Wing's F-15s from dozens of photographers, a map of all the 104th Fighter Wing's deployments with the F-15 Eagle, and statistics about the F-15 Eagle and the 104th Fighter Wing's mission.

Eagles Over New England: The History of the F-15 at Barnes, 2007-2025 is available to order from the Thunderbolt Council Inc. at thunderboltcouncil.org. The book is an excellent addition to the library of any aviation enthusiast.







**Distelfink
Airlines**

Est.
2013



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.

ABOUT

DISTELFINK AIRLINES

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.

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