March 2023

Corey J Beitler's

"Distelfink Airlines"

An Online Aviation Newsletter

★ Celebrating 10 Years Of Publication! ★

A Flock Of Birds Destined For Qatar

Boeing 747-8I

Gemini Jets General Aviation 1/72 Scale Piper J-3 Cub

Boeing PT-17 Stearman Kaydet

Northrop T-38 Talon

Lockheed Martin F-22A Raptor

A Rare Mitsubishi F-15J Eagle Model

One of four Boeing F-15QAs destined for the Qatar Emiri Air Force prepares to depart the Dover Air Force Base in Delaware on February 24, 2023. Qatar awarded Boeing a contract worth over $6.2 billion in 2017 to deliver 36 F-15QAs starting in 2021. (Photo Courtesy of Mike Colaner/Aces High Aviation Photography).

FROM THE EDITOR'S DESK

F-15QAs, WASP Stearman, Cochran's T-38, F-22 Raptor, Die-Cast J-3 Cub & F-15J!

Greetings Everyone:

"Distelfink Airlines" continues celebrating its 10th year of publication with the March edition of the newsletter. The newsletter had an excellent February, achieving a record number of views and reaching aviation enthusiasts in 10 new international locations.

For the feature content for this edition, aviation photojournalist Mike Colaner from Aces High Aviation Photography provides some excellent and rare photos that were taken of some brand new Boeing F-15QA Ababli fighters when they stopped at the Dover Air Force Base during their ferry flight to RAF Mildenhall in the United Kingdom. These aircraft are some of the most advanced versions of the F-15 ever built and will eventually be part of the Qatar Emiri Air Force. Qatar ordered 36 F-15QAs in 2017 from Boeing and this production contract is nearly complete. Mike also captured the aerial refueling tanker aircraft being used to refuel the F-15QAs as they crossed the Atlantic. The F-15QAs are also very similar to the F-15EX Eagle IIs that the U.S. Air Force is considering purchasing to replace the aging F-15 C/D Eagle fleet in the Air National Guard units in the United States. These photos are an excellent catch by Mike and I can't thank him enough for generously providing them for publication in this edition of Distelfink Airlines. Please consider following Mike's work on his Aces High Aviation Photography Facebook group page at https://www.facebook.com/groups/3885378751525523

March is Women's History Month and two sections of the newsletter are dedicated this month to aircraft flown by women aviation pioneers. The "Flying Colors" section is back for this edition with a very special Boeing PT-17 Stearman Kaydet. This content ties in with March being Women's History Month as the Stearman featured in this section was used by the WASP training program in Texas during World War II. The "Aircraft of the National Air And Space Museum" section features the Northrop T-38 Talon flown by Jacqueline Cochran when she set several records with the aircraft in 1961.

In February, a Chinese spy balloon was shot down by a U.S. Air Force fighter jet off the coast of South Carolina. The "Aircraft of Special Interest" section features the Lockheed F-22A Raptor, the type of aircraft used to shoot down the balloon, and the most advanced fighter in the U.S. Air Force inventory.

After many years of waiting, die-cast aircraft collectors finally have a Piper J-3 Cub for their model airplane collections. Gemini Jets has released the iconic light aircraft as part of their General Aviation Series of models in 1/72 scale. This model is featured in the "Aircraft Models" section and makes a great companion to the company's earlier release of a Cessna 172 Skyhawk in the same scale.

Finally, a rare find at a consignment shop recently was a The Franklin Mint Mitsubishi F-15J Eagle die-cast model. This model is long out of production and was only available in hobby and gift shops in Japan. Limited to 500 pieces, the model sold out immediately. This example made it out of Japan, was kept sealed in its box for years, and now has a new home in my collection. This model is a large and beautiful replica of the license-built version of the F-15 Eagle used by the Japanese Air Self-Defense Force.

Thank you for reading the newsletter and supporting my aviation photojournalism efforts. Please be sure to follow the newsletter on its Instagram and Facebook pages at the links below.

Regards,
-Corey

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What's Inside:

Boeing 747-8I

A Boeing 747-8I operated by the German airline Lufthansa on approach to the Washington Dulles International Airport in Virginia after a flight from Frankfurt. The 747-8, built in both passenger and freighter variants, was the last variant of the iconic 747 built and was introduced in 2005. The 747-8 introduced a stretched fuselage, composite materials, a redesigned wing, new engines, and other improvements to the design. The last 747 built by Boeing, a 747-8F, was delivered to Atlas Air in January, ending the type's 54-year production run.

The Boeing 747 is a large four-engine, long-range, wide-body commercial airliner designed and manufactured by Boeing Commercial Airplanes. The first wide-body airliner and affectionately nicknamed the "Jumbo Jet", the 747 was produced in several commercial, freighter, and specialized military and civilian variants from 1968 to 2023.

The Boeing 747 revolutionized the commercial airline industry when it debuted in 1968. The 747 was one of the first aircraft to use high-bypass turbofan jet engines, a design that delivered double the power of turbojet engines while using one-third less fuel. The 747 was also designed with redundant hydraulic systems, quadruple main landing gear, and dual control surfaces. These redundant systems allowed the 747 to be flown and land safely in the event one failed. To allow the 747 to operate from existing airports and runways, Boeing incorporated some of the most advanced high-lift devices in the industry into the design of the aircraft's wing. Finally, the 747's cockpit was positioned high above the nose on an upper deck. The position of the cockpit accommodated the installation of a nose freight door on freighter versions of the 747 for efficient loading of cargo pallets into the aircraft.

The first 747 entered service with Pan-Am in 1970. Improved variants of the 747 were introduced throughout the 1970s, and the type quickly became popular with frequent air travelers thanks to its speed and superior accommodations. Airlines worldwide used the 747 on international routes and featured the aircraft in promotional advertisements. The most popular variant of the 747, the 747-400, entered service in 1989 and featured winglets, improved engines, and a new two-crew glass cockpit. The stretched and further improved 747-8 was launched in 2005. In addition to its use as a commercial aircraft, military variants of the 747 have been used as the Shuttle Carrier Aircraft, the E-4 Emergency Airborne Command Post, and the VC-25 (Air Force One). In January 2023, Boeing delivered the last production 747, a 747-8F, to Atlas Air, ending the aircraft's 54-year production run.

The 747-8I pictured here is an aircraft belonging to the German airline Lufthansa. This 747-8I is one of 19 operated by the airline, which also operates eight older 747-400s. The 747-8I is arriving at the Washington Dulles International Airport in Virginia after a flight from Frankfurt, Germany.


Lufthansa


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Gemini Jets General Aviation 1/72 Scale Piper J-3 Cub

Gemini Jets 1/72 scale Piper J -3 Cub is a rare model of a general aviation aircraft in die-cast model form. The Piper J-3 Cub is one of the most famous flight training and light aircraft ever built. More than 20,000 Piper J-3 Cubs were built by Piper Aircraft between 1938 and 1947. In addition to civilian use, the Piper Cub, designated the L-4 Grasshopper, also served in World War II as a liaison aircraft.

The Piper J-3 Cub is an American single-engine, light aircraft developed by Piper Aircraft and built from 1938 to 1947. Designed for use as a flight trainer, the Cub was lightweight and had excellent low-speed handling characteristics and short-field takeoff performance. With a simple four-cylinder engine built by either Lycoming, Franklin, or Continental, the Cub was also affordable to operate and maintain.

When the Civilian Pilot Training Program was formed in 1939, the J-3 Cub was chosen as the aircraft in which student pilots would learn basic flight instruction. The formation of the program created a huge demand for the Cub, and soon, Piper Aircraft was overwhelmed with orders for the little aircraft.

The J-3 Cub would also play a critical role in World War II. Designated the L-4 Grasshopper, the Piper Cub was one of several aircraft used in a liaison role during the war. The L-4 would be used extensively throughout the war in support roles such as artillery spotting, short-range reconnaissance, medical evacuation of wounded soldiers, and transporting critical supplies and personnel to the front lines.

By the time production ended in 1947, more than 20,000 Cubs had been built by Piper Aircraft. After the war, many L-4s were sold as surplus to civilian owners. Thousands of Cubs remain flying and in airworthy condition, with some still being used as bush aircraft in the remote regions of Canada and Alaska. With its excellent flight characteristics, simple design, and affordability to operate, the Piper J-3 Cub has become one of the most iconic general aviation aircraft of all time.

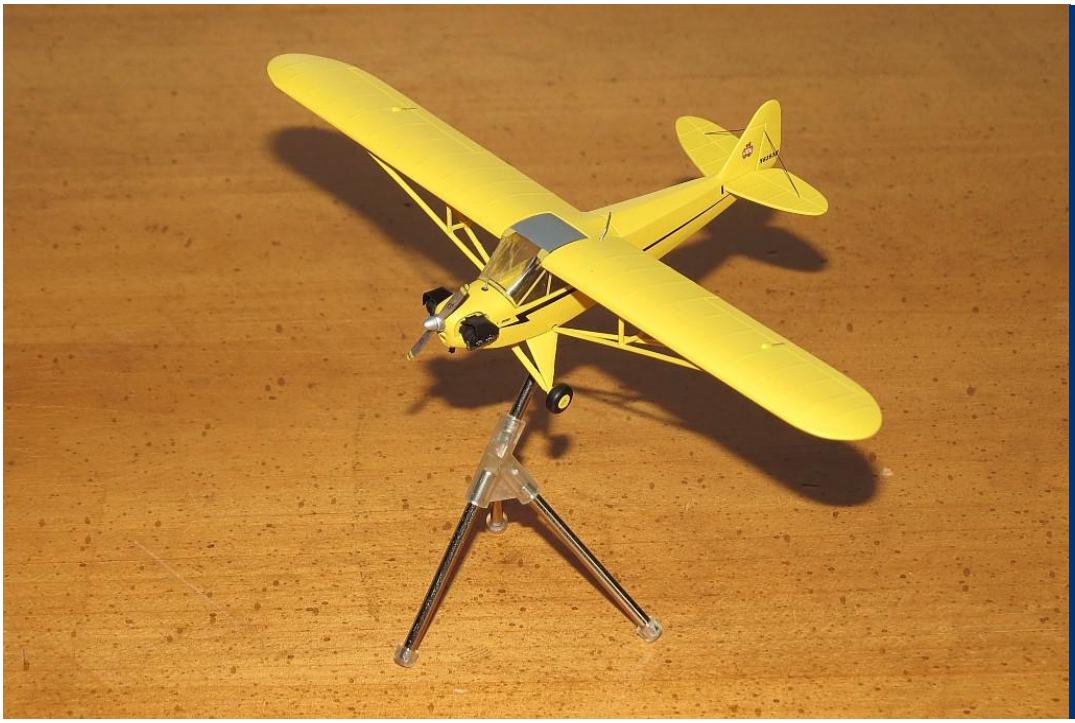
Gemini Jets is a well-known manufacturer of die-cast aircraft. The company primarily focuses on 1/400 and 1/200 scale models of commercial jet airliners and military transport aircraft. In recent years, the company has offered some models of military and general aviation aircraft in 1/72 scale. A recent release for the company is the first die-cast Piper J-3 Cub model to be offered in 1/72 scale. The model is the second release of Gemini's General Aviation aircraft series, which includes a previously released model of a Cessna 172 Skyhawk that has been offered in several paint schemes.

As general aviation aircraft are not often offered in 1/72 scale die-cast, Gemini's Piper J-3 Cub is an excellent departure from traditional releases but one that should sell well given the popularity of the Cub among aviation enthusiasts and pilots. This model was released in partnership with Sporty's Pilot Shop and Academy, a company that operates a retail store for pilots and aviation enthusiasts and a flight training school at the Clermont County Airport in Urbana, Ohio. The Cub is painted in the markings of an aircraft based at Sporty's Field/ Clermont County Airport.

Gemini's 1/72 scale Piper J-3 Cub has several strong points. The model comes painted in the Cub's famous "Cub Yellow" or "Lock Haven Yellow" paint scheme with a black lightning bolt stripe on the fuselage. This color scheme was the standard factory color scheme for the Piper J-3 Cub and is arguably the Cub's most well-known color scheme. The model also has the correct shape of the real Cub and has detailed markings, such as the Piper Aircraft bear cub logo on the tail and the Piper nameplate on the nose. At 1/72 scale, this model is small, but it is supposed to be, and placing it beside a 1/72 scale die-cast World War II fighter aircraft further illustrates just how small a Cub is compared to other aircraft. The model's small footprint allows it to be displayed almost anywhere, either on its landing gear or attached to the included display stand.

As with any model, there is room for improvement. Perhaps the greatest disappointment with the model is Gemini molded the cockpit door closed on the model. Most J-3 Cubs are flown with this door open, and molding the model with the door open would have allowed pilot figures to be inserted into the cockpit if the collector desired. Gemini's rendition of the "Cub Yellow" color seems too light as well. Gemini could have also improved the paint detail on the smaller parts, such as the tailwheel and engine. Finally, Gemini Jets missed replicating the black shock cords that are installed on the J-3's inner landing gear struts on the model.

Gemini's 1/72 scale Piper J-3 Cub die-cast model isn't perfect but has the general look and appearance of the iconic flight trainer and should delight anyone from an enthusiast to a pilot who loves the Cub. The model is an excellent and rare release of a general aviation aircraft in die-cast form. The Cub is a perfect model to display with Gemini's earlier Cessna 172 Skyhawk model and should have a well-deserved place in the model airplane collection of any collector.

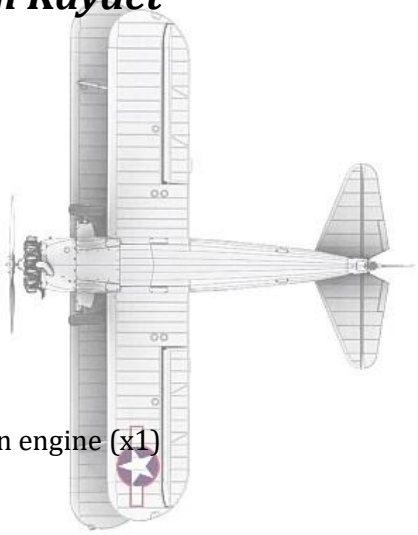


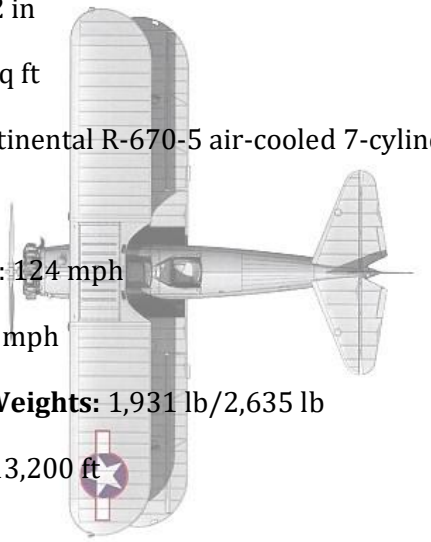
Gemini Jets 1/72 scale die-cast Piper J-3 Cub model is small but has some excellent details, including the Piper Aircraft cub logo on the tail, an authentic factory "Cub Yellow" paint scheme with the black lightning stripe on the fuselage, and small detail parts to replicate the Cub's four-cylinder engine. Unfortunately, these smaller parts could have improved paint detailing. Gemini also failed to replicate the Cub's classic black shock cords on the inner landing gear struts, taking a bit away from what is otherwise an excellent model.

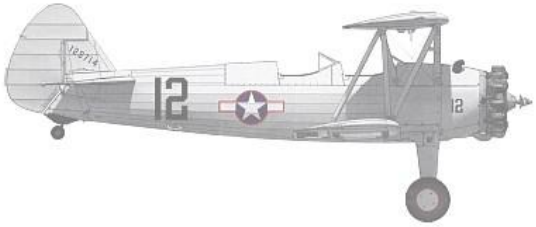
Boeing PT-17 Stearman Kaydet (1934)

The PT-17 is a variant of the Boeing Model 75 Stearman Kaydet formerly used as a primary training aircraft by the U.S. military during World War II. Widely known as the Stearman, the Stearman Kaydet, or the Boeing Stearman, the rugged biplane was used in large numbers by the U.S. Army Air Corps (primarily as the PT-17) and the U.S. Navy (primarily as the N2S-3). During World War II, more American military pilots learned to fly in the Stearman Model 75 than in any other airplane. After the war, thousands of the more than 8,500 Model 75 Stearmans built were sold as surplus to civilian and former military pilots. The surplus Stearmans were used for decades as airshow performers, crop dusters, and banner towing aircraft. Today, the remaining examples of this classic American biplane are highly sought after as collector aircraft.

Boeing PT-17 Stearman Kaydet







Crew: 2 (Student & Flight Instructor)

Length: 34 ft 9 in

Height: 9 ft 8 in

Wingspan: 32 ft 2 in

Wing Area: 298 sq ft

Powerplant: Continental R-670-5 air-cooled 7-cylinder radial piston engine (x1)

Range: 505 nmi

Maximum Speed: 124 mph

Cruise Speed: 96 mph

Empty/Loaded Weights: 1,931 lb/2,635 lb

Service Ceiling: 13,200 ft

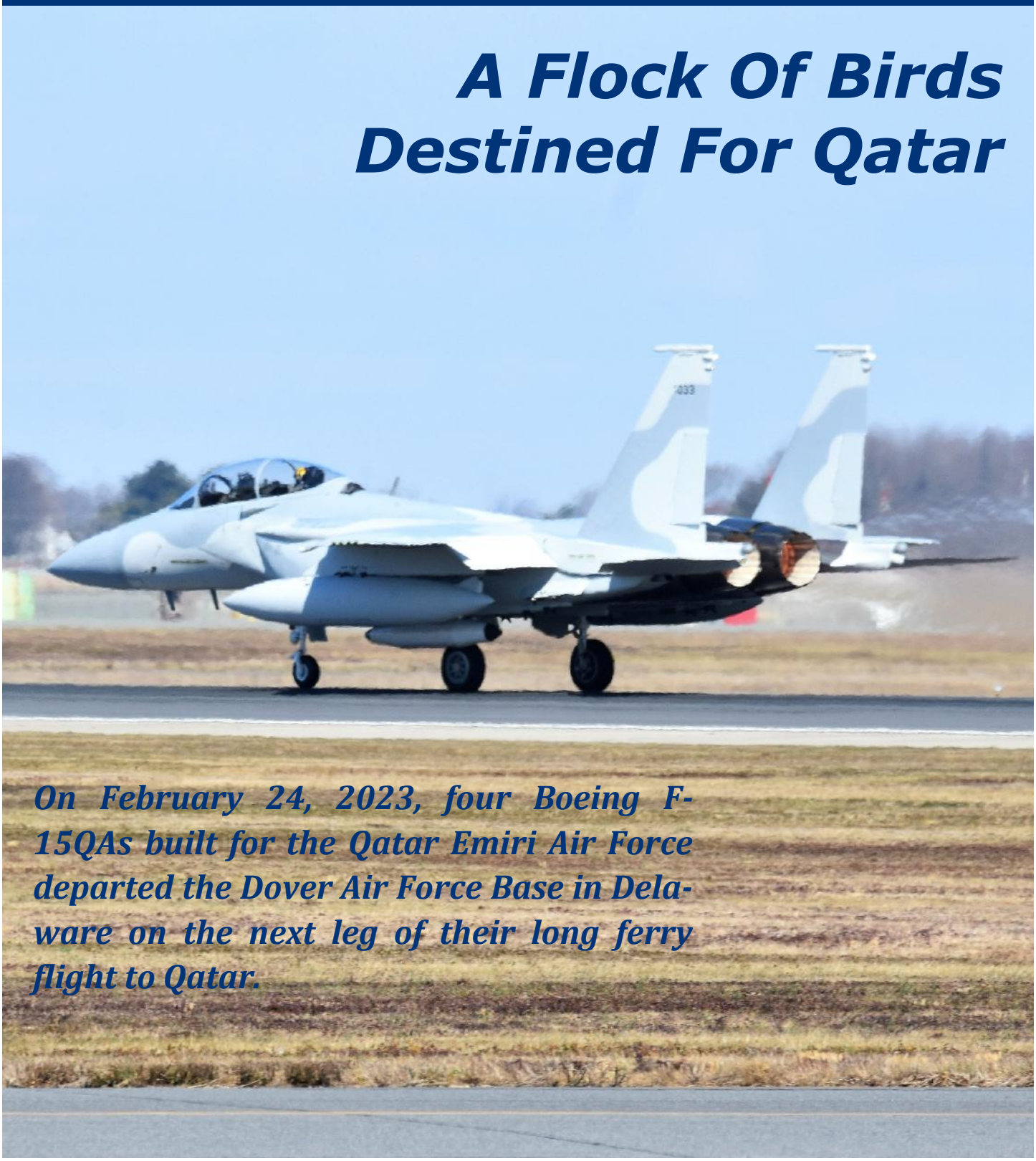
Boeing PT-17 Stearman Kaydet, #41-25714, U.S. Army Air Corps, 318th AAF Flying Training Detachment, 31st Flying Training Wing, Avenger Field, Sweetwater, Texas, 1943

During World War II, the WASP (Women Airforce Service Pilots) was an organization created to recruit women to become trained pilots to fly non-combat roles, such as ferrying planes, flight instruction, flight testing, and flying anti-aircraft tow targets. The purpose of the organization was to free male pilots for combat roles in the war. Although various members of the military were involved in the creation of the WASP organization, the WASP pilots were considered United States federal civil service employees and had no military standing, and received no military benefits.

The WASP program was created in 1943 by the merging of two separate organizations, the Women's Flying Training Detachment (WFTD) and the Women's Auxiliary Ferrying Squadron (WAFS). Recruits for the organization had to be between 21 and 35 years old, in good health, and at least 5 feet 2 inches tall. They were also required to be licensed pilots with 500 hours of flight time. After being accepted into the WASP, the women were required to complete the same military flight training that male pilots in the U.S. Army Air Corps did. Over 25,000 women applied to be part of the WASP, but only 1,074 completed the training when the program ended in 1944. The duties of the WASP included ferrying aircraft to military bases, towing anti-aircraft targets for gunnery practice, flying cargo, and test-flying new aircraft. Between 1942 and 1944, the WASP delivered over 12,000 aircraft to bases around the United States. Thirty-eight WASP members lost their lives in accidents during the war. In 1977, the WASPs were officially granted veteran status for their service during the war.

The Boeing PT-17 Stearman Kaydet shown is one of the aircraft that was used by the WASP pilots for flight training at Avenger Field in Sweetwater, Texas from 1943 to 1944. In 1998, Michael Porter bought the airplane in rough condition. After researching its history, Porter faithfully restored the aircraft in the markings it wore when it was stationed at Avenger Field to honor the history of the WASP. Porter's Stearman has won numerous awards for the quality of its restoration.

A Flock Of Birds Destined For Qatar



On February 24, 2023, four Boeing F-15QAs built for the Qatar Emiri Air Force departed the Dover Air Force Base in Delaware on the next leg of their long ferry flight to Qatar.

A Boeing F-15QA Ababil built as part of a contract of 36 aircraft for the Government of Qatar thunders down the runway for takeoff at Dover Air Force Base on February 24, 2023. The F-15QA Ababil is the variant of the F-15 Advanced Eagle built for the Qatar Emiri Air Force.

The second F-15EX Eagle II built for the U.S. Air Force, #20-002, on static display at the 2022 Great Texas Airshow. This F-15EX and F-15EX #20-001 were taken from the Qatar production order and built to F-15EX specifications so the U.S. Air Force can test and evaluate the type. This F-15EX is operated by the 53rd Test and Evaluation Squadron based at Eglin Air Force Base in Florida.

The McDonnell Douglas (now Boeing) F-15 Eagle was introduced by the U.S. Air Force in 1976 as a dedicated air superiority fighter. The twin-engine, all-weather tactical fighter has been one of the world's most successful modern fighter aircraft, with over 100 aerial victories to its credit and no losses. The Eagle was also exported to numerous countries, including Japan, Israel, and Saudi Arabia.

Originally, the F-15's design included a secondary ground-attack capability that went largely unused because the F-15 was utilized as a pure air superiority fighter. The F-15's design proved to be flexible enough that it was developed into an all-weather strike derivate, the F-15E Strike Eagle. The F-15E entered service in 1989. The F-15E Strike Eagle has been widely used in military conflicts in Iraq, Afghanistan, Syria, and Libya. During these conflicts, the F-15E has been used for combat air patrols, close air support for coalition forces, and strikes against high-value targets deep in enemy territory.

The F-15E Strike Eagle has been further developed by Boeing into a substantially upgraded variant, the F-15 Advanced Eagle. The F-15 Advanced Eagle has been ordered by Royal Saudi Air Force as the F-15SA and the Israeli Air Force as the F-15IA. Recently, the U.S. Air Force announced plans to acquire the F-15 Advanced Eagle to replace some of the aging F-15 C/Ds in Air National Guard squadrons and maintain the size of its inventory. In U.S. Air Force service, the F-15 Advanced Eagle will be designated the F-15EX Eagle II. The U.S. Air Force has proposed ordering between 80 and 144 F-15EXs in the coming years.

This feature includes photographs of four F-15QAs that are destined for the Qatar Emiri Air Force. The F-15QA is a variant of the F-15 Advanced Eagle that has been ordered by the Government of Qatar. The F-15QAs stopped at the Dover Air Force Base in Delaware during their ferry flight overseas, along with the three KC-135 Stratotankers supporting the flight, on February 23-24, 2023. All of the photographs in this feature were generously provided for use to *Distelfink Airlines* by aviation photojournalist Mike Colaner/ Aces High Aviation Photography.

Four F-15QAs destined for the Qatar Emiri Air Force (QEAF) taxi out for departure at the Dover Air Force Base. The F-15QAs are part of an order of 36 placed with Boeing by the QEAF in 2017 in a contract worth $6.5 billion. These F-15QAs are serial numbers #17-0030, #17-0031, #17-0032, and #17-0033. These serial numbers indicate the production of the F-15QAs for the QEAF is nearly complete. The next stop for these F-15QAs on their ferry flight was RAF Mildenhall in the United Kingdom.

Three of the Boeing F-15QAs taxi to the runway to prepare for departure. The F-15QA is named the "Ababil" in QEAF service. The name "Ababil" in Arabic means a "flock of birds". In the Islamic faith, it is believed these miraculous birds protected the Kabba in Mecca from the Askumite elephant army of Abraha by dropping small clay stones on them as they approached. The F-15QAs will be operated by the 5th Flying Wing of the QEAF and equip the 51st, 52nd, and 53rd squadrons.

A Boeing F-15QA destined for the QEAF taxis at the Dover Air Force Base. The F-15QA is one of the new Advanced Eagle variants, and is considered a 4th generation-plus fighter and multirole aircraft. The F-15QAs operated by the QEAF use a two-tone low visibility grey camouflage scheme seen here. This scheme has also been seen on the QEAF's Eurofighter Typhoon aircraft. Behind the F-15QA is one of the U.S. Air Force Boeing C-17A Globemaster III transport aircraft based at Dover AFB.

F-15QA #17-0031 on taxi out to the runway at Dover Air Force Base. In the distance, Lockheed C-5M Super Galaxy cargo aircraft based at Dover are parked on the ramp. The F-15QA has a crew of two, a pilot, and a weapons system officer (WSO). The F-15QA cockpit has low-profile Heads-Up Displays (HUDs) and 10in x 19in Large Area Displays (LADs) in both cockpits. These displays make large amounts of information available to the flight crew and significantly reduce their workload.

F-15QA Ababil #17-0030 taxis to the runway at Dover Air Force Base. The F-15 Advanced Eagle variants, such as the F-15QA retain the basic shape of the F-15E Strike Eagle but are much more capable aircraft with their upgraded weapons systems. As this aircraft is new from the factory, it does not wear any QEAF insignias or squadron markings. A very faint low-visibility U.S. insignia is below the cockpit. This type of identification is common on delivery flights of foreign military aircraft to their new owners.

The F-15 Advanced Eagle variants, such as the F-15QA, carry a crew of two consisting of the pilot and a weapons systems officer (WSO). The crew of two is each equipped with a Joint Helmet-Mounted Cueing System (JHMCS). The JHMCS allows the pilot or WSO to aim and fire the air-to-air or air-to-ground weapons simply by looking at the target and pressing a button on their fight controls. The JHMCS can also show additional data on the display, such as airspeed, altitude, and target range.

The F-15 Advanced Eagle variants have new Missile Approach Warning System (MAWS) sensors in the nose and the tail. The aircraft also has a brand-new digital fly-by-wire flight control system and is equipped with the AN/APG-82V(1) Advanced Electrically Scanned Array (AESA) radar, one of the most advanced aircraft radars in the world. Boeing also integrated the Elbit Systems anti-jamming systems into the F-15QA, allowing it to fly into environments with heavy electromagnetic interference.

The F-15 Advanced Eagle variants, such as the F-15QA, also have some structural changes to the airframe. Similar to the F-15E Strike Eagle, the F-15 Advanced Eagle is equipped with conformal fuel tanks for increased range. These conformal fuel tanks are removable if operational needs require. The F-15 Advanced Eagle also has two new weapons hardpoints on the outer wings for increased payloads. The F-15 Advanced Eagle can be configured to carry a variety of air-to-air and air-to-ground weapons.

A rear view of one of the F-15QAs shows the business end of the pair of General Electric F110-GE-29 afterburning turbofan engines that power the F-15 Advanced Eagle variants. These engines, combined with the digital fly-by-wire flight control system, give the F-15 Advanced Eagle excellent acceleration, top speed, and maneuverability. These engines allow the F-15 Advanced Eagle to reach a top speed of over Mach 2.5 (1,650 mph) at high altitudes and Mach 1.7 (900 mph) at low altitudes.

Two of the four F-15QAs in the ferry flight turn onto the runway to depart Dover Air Force Base for the long transatlantic flight to RAF Mildenhall in the United Kingdom. The F-15QAs are carrying large external fuel tanks under their wings to increase their range but would still require aerial refueling by tanker aircraft to make the journey across the Atlantic Ocean. With these four aircraft delivered, only three more F-15QAs remain to be completed by Boeing for the QEAF.

To get the F-15QAS across the Atlantic to the United Kingdom, they relied on the support of three aerial tankers from the U.S. Air Force. All three tankers were variants of the Boeing KC-135 Stratotanker operated by Air National Guard units. Based on the Boeing 707 commercial airliner, the KC-135 was the U.S. Air Force's first jet-powered aerial tanker and has been in continuous service for over 60 years. The KC-135 can also be operated in a secondary role as a strategic military transport aircraft.

One of the KC-135s responsible for providing aerial refueling to the F-15QAs during the ferry flight on taxi prior to departure at the Dover Air Force Base. This KC-135R is assigned to the 155th Air Refueling Wing of the Nebraska Air National Guard and is based at Lincoln Air National Guard Base. The KC-135R is a variant of the KC-135 that has been re-engined with CFM56 engines for improved fuel efficiency and reliability. The U.S. Air Force converted more than 417 KC-135s to the R variant.

Another KC-135 taxis to the runway at Dover, this is a KC-135T of the Pennsylvania Air National Guard's 171st Air Refueling Wing based at the Pittsburgh International Airport. The KC-135T variant is a KC-135Q re-engined with CFM56 engines. The KC-135Q was a specially modified version of the Stratotanker designed to carry the special JP-7 fuel used by the Lockheed SR-71 Blackbird. A total of 56 KC-135s were converted to the Q variant. The aircraft that remain in service are now KC-135Ts.

The third KC-135 Stratotanker being used to support the ferry trip for the F-15QAs to RAF Mildenhall was another KC-135R. This KC-135R is operated by the 185th Air Refueling Wing of the Iowa Air National Guard. The 185th Air Refueling Wing is based at the Colonel Bud Day Field in Sioux City, Iowa and is made up of over 900 personnel. The unit began flying the KC-135E variant of the Stratotanker in 2002. In 2007, the 185th Air Refueling Wing upgraded to the improved KC-135R variant.

The KC-135R being operated by the 155th Air Refueling Wing of the Nebraska Air National Guard to assist the four F-15QAs on their ferry trip taxis to the runway at Dover AFB. The KC-135 was initially designed to refuel strategic bombers. During the Vietnam War, and later in Operation Desert Storm, the KC-135 fleet was used to extend the range and endurance of tactical fighters and bombers. The KC-135 can also carry a mixed complement of passengers and cargo on its upper deck.

Aircraft are refueled from the KC-135 using the boom that can be seen at the tail of the 171st Air Refueling Wing's KC-135T. The boom is lowered when an aircraft is refueled and then retracted into this storage position when not in use. The U.S. Air Force has a large KC-135 fleet, operating 398 aircraft between U.S. Air Force Active Duty, Air National Guard, and Air Force Reserve units. The KC -135 fleet is expected to be partially replaced by the KC-46 Pegasus aerial refueling and strategic transport aircraft.

Northrop T-38 Talon

A Northrop T-38 Talon supersonic jet trainer hangs in the West Wing in the Smithsonian Institution's National Air and Space Museum on the National Mall in Washington D.C. This T-38 was flown by Jacqueline Cochran on several flights in 1961 in an attempt to break several world records. The 55-year–old Cochran broke eight world records, including records for speed, distance, and altitude.

The Northrop T-38 Talon was the world's first supersonic jet trainer and has trained tens of thousands of pilots since it entered service in 1961. The T-38's performance, versatility, ease of maintenance, and affordability to operate made it an ideal trainer for front-line fighter pilots. Pilots of aircraft such as the F-15E Strike Eagle, F-22A Raptor, B-1B Lancer, and A-10 Thunderbolt II have had flight training in the T-38 Talon.

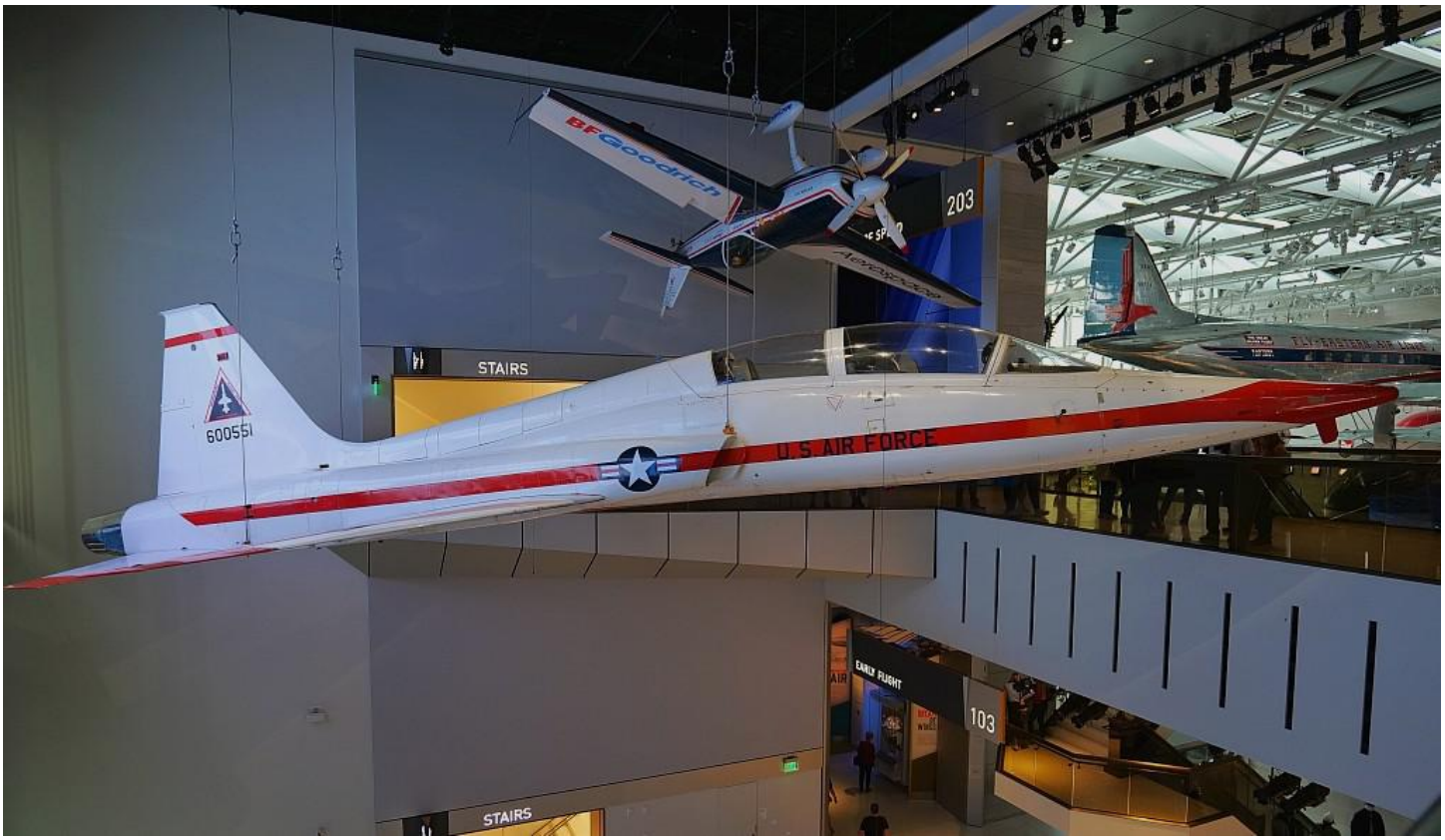
The development of the aircraft that became the T-38 began in 1954. Northrop was considering building a lightweight supersonic fighter aircraft and thought such a design would sell well internationally. Unfortunately, most of the jet engines of the time were too large and too heavy for the sleek fuselage design they had in mind. In 1954, General Electric showed Northrop a new jet engine they had designed, the J85. The J85 weighed only 500 pounds and generated up to 3,600 pounds of thrust with an afterburner added. Using two J85 engines, Northrop developed an aircraft around it designated the N-156. The design was submitted to the U.S. Navy as a proposed fighter for their escort carrier fleet and to the U.S. Air Force as a supersonic trainer. The U.S. Navy lost interest in the project when they mothballed their escort carrier fleet, but Northrop continued to work on the N-156 for the U.S. Air Force supersonic trainer requirement. In 1956, the U.S. Air Force issued a production contract for a prototype, the YT-38, which flew for the first time in 1959. In 1961, the first operational T-38 Talon entered service at Randolph Air Force Base in Texas.

By the time production ended in 1972, nearly 1,200 Talons had been built. The T-38 has remained operational into the 21st century, with the primary user being the U.S. Air Force. NASA also maintains a large fleet of T-38s. These T-38s are flown by astronauts to maintain their proficiency and are used as chase planes. The T-38 was also used by the U.S. Air Force Thunderbirds Flight Demonstration Squadron as their demonstration aircraft from 1974 to 1983. After serving for over 60 years with the U.S. Air Force, the gradual replacement of the T-38 Talon in service will begin in 2023 with the introduction of the new Boeing-Saab T-7 Red Hawk.

The T-38 has a streamlined fuselage and swept wings. The flight controls are powered by two hydraulic systems. To facilitate ease of maintenance, most core components of the aircraft are waist-high level. The aircraft has tricycle landing gear with a steerable nose wheel. Designed for training, the T-38 has a two-place air-conditioned and pressurized cockpit equipped with rocket-powered ejection seats for the instructor and student. Generally, the T-38 carries no weapons as a trainer, but some aircraft were later modified for weapons training and could carry gun pods and bombs. The T-38 can reach speeds of Mach 1.3 (858 mph), is capable of sustaining seven Gs, and can reach altitudes of 55,000 feet. Thanks to its small size and powerful engines, the T-38 has an impressive climb rate and can reach an altitude of 30,000 feet in one minute. In 2001, most of the surviving T-38 Talon fleet was modernized with new engine components, a "glass" cockpit, and integrated avionics with a heads-up display. These modernized T-38s remain in service today as the T-38C.

The museum's T-38 was flown by Jacqueline "Jackie" Cochran on a series of flights in 1961 in an attempt to set several world records. During these flights, Cochran set eight world records for speed, altitude, and distance. One of these records included a record for speed, when Cochran flew 844.2 mph over a 15 km closed course on August 24, 1961. Cochran was 55 years old at the time she set this record. Cochran's impressive aviation resume also included winning the 1938 Bendix Trophy, becoming the first woman to break the sound barrier, and being a founding member of the WASP (Women Air Force Service Pilots) organization during World War II.

The T-38 Cochran flew stayed in the U.S. Air Force inventory after her flights. The T-38 is currently displayed in the markings it wore as a test aircraft while at McClellan Air Force Base in Sacramento, California. It was part of McClellan AFB 2874 Test Squadron and used as a chase plane and to perform developmental and engineering test flights in support of other aircraft, such as the F-111 Aardvark. The U.S. Air Force transferred the T-38 to the Smithsonian Institution's National Air and Space Museum in 2004.



Lockheed Martin F-22A Raptor (1997)

The F-22A Raptor is a fifth-generation, single-seat, twin-engine, all-weather stealth tactical fighter aircraft designed and developed by Lockheed Martin for the United States Air Force. Initially designed as an air superiority fighter, the F-22A also has ground attack, electronic warfare, and signals intelligence capabilities. The F-22 Raptor flew for the first time in 1997 and underwent a lengthy testing program before officially entering operational service in 2005. A total of 195 F-22 Raptors were built between 1996 and 2011. Although it had some initial operational difficulties, the F-22 has become a critical component of the U.S. Air Force's tactical airpower arsenal. The F-22's development represented a benchmark in fighter aircraft design in aerodynamic performance, stealth technology, mission system, and air combat capabilities.

Lockheed Martin F-22A Raptor

Crew: 1

Length: 62 ft 1 in

Height: 16 ft 8 in

Wingspan: 44 ft 6 in

Wing Area: 840 sq ft

Powerplant: Pratt & Whitney F119-PW-100 augmented turbofans (x2)

Range: 1,600 nmi (with two external fuel tanks)

Cruise Speed: Mach 1.82 (1,200 mph) supercruise at altitude

Maximum Speed: Mach 2.25 (1,500 mph) at altitude, Mach 1.21 (921mph) at sea level

Empty/Loaded Weights: 43,340 lb/83,500 lb

Service Ceiling: 65,000 ft

Armament: M61A2 Vulcan 20 mm cannon (x1), AIM-9M or AIM-9X Sidewinder infrared air-to-air missiles (x2), AIM-120C/D AMRAAM radar-guided air-to-air missiles (x6) or AIM-120C/D AMRAAM missiles (x2) and 1,000 lb GBU-33 JDAM bombs (x2) or 250 lb GBU-39 Small Diameter Bombs (x8) in internal weapons bays. Four underwing pylon stations can be fitted to carry up to 5,000 lb of weapons or 600 gal external fuel tanks.

5th Generation Stealth Fighter

Avionics & Cockpit

The F-22 has an integrated avionics system where through sensor fusion, data from all the F-22's systems is filtered and processed. This gives the pilot a complete tactical picture of the battlefield, enhancing their situational awareness and reducing workload. The avionics suite can allow the pilot to quickly designate targets for allies and coordinate with friendly aircraft. The F-22's advanced defensive systems can alert the pilot when to deploy countermeasures like flares if a threat is detected. This information is displayed on the pilot's heads-up display and six LCD monitors in the cockpit. The F-22 has an all-glass cockpit with digital flight instruments, a force-sensitive sidestick controller, and a pair of throttles.

Stealth

The F-22 was designed to be difficult to detect and track by radar. Lockheed Martin relied on using radar-absorbent materials and the shape of the airframe when designing the F-22 to reduce the Raptor's radar signature. Attention to even small details, such as the pilot's helmet, hinges, and an opening and closing door to cover the gun barrel for the internal cannon, were all accounted for during the F-22's design. The F-22 also uses an active cooling system and a special surface coating to manage heat buildup from supersonic flight. Recently, F-22s have been spotted testing a chrome-like surface coating that appears to change color based on the viewer orientation of the aircraft. It is thought this coating will reduce the F-22's detectability by infrared tracking systems and missiles.

Combat Operations

Although the F-22 entered service in 2005, it had not scored any air-to-air kills in combat operations until last month when an F-22 from the 1st Fighter Wing at Langley Air Force Base shot down a suspected Chinese spy balloon off the coast of South Carolina. The shootdown occurred on February 4, 2023, with the F-22 using an AIM-9X Sidewinder air-to-air missile to destroy the balloon. The F-22 destroyed the balloon while it was flying at an altitude of 60,000 to 65,000 feet, making the balloon's destruction possibly the highest recorded air-to-air kill in aviation history.

Armament

The F-22 Raptor was designed as an air superiority fighter and can be armed with the AIM-9/9X Sidewinder infrared air-to-air missile and the AIM-120C/D AMRAAM radar-guided air-to-air missile. The F-22 also carries a 20 mm M161A2 Vulcan internal cannon. In addition to its air superiority role, the F-22 can operate as a ground attack aircraft. The Raptor can carry the 1,000 lb GBU-33 JDAM (Joint Direct Attack Munition) bombs and the smaller GBU-39 Small Diameter Bombs. To preserve its stealth and aerodynamic properties, the F-22 was designed to carry all its weapons in internal weapons bays. Two weapons bays are located on the side of each engine intake, and a larger weapons bay in the bottom of the fuselage. Carrying the weapons load internally also helps hide the heat and radar signatures of the missiles and bombs themselves from enemy radar systems. When weapons are launched, the weapon bay doors are open for less than a second. A small bay for countermeasures, such as flares and chaff, is located behind the weapons bays on the side of each engine intake.

External Stores

Although designed to operate as a stealth aircraft and carry its weapons internally, the F-22 can be equipped with four pylons under each wing when stealth operation is not critical. The inner two pylons are plumbed to handle external fuel tanks for ferry flights. Recently, the outer pylons have been used to mount a new stealthy external pod that houses an IRST (infrared search and track) system and upgraded mission systems. The F-22 can jettison the external stores, including the pylon itself, if it is necessary to restore the F-22s stealth properties and aerodynamic performance.

Engines

The F-22 is powered by a pair of Pratt & Whitney FW119 augmented turbofan engines. These engines incorporate thrust-vectoring nozzles that are integrated into the F-22's flight controls and aircraft management system. The flat-shaped exhaust nozzles dissipate the heat of the engine exhaust and reduce the threat of infrared homing by heat-seeking air-to-air missiles. The engines, combined with the F-22's aerodynamics, allow the Raptor to supercruise at supersonic speed without using afterburners and to operate at higher altitudes than most fighter aircraft, increasing survivability against surface-to-air missiles. The FW119 engines, combined with the aircraft's aerodynamic properties and flight control system, give the F-22 Raptor impressive maneuverability across its flight envelope.

A Rare Mitsubishi F-15J Eagle Model

The Franklin Mint produced this limited edition 1/48 scale die-cast model of a license-built Mitsubishi F-15J Eagle exclusively for the Japanese market in 2005. The Japanese Air Self-Defense Force operates F-15J air superiority and F-15DJ training variants of the Eagle. This model was limited to 500 pieces and was difficult to purchase outside of Japan. The model had its canopy carefully detached so a 1/48 scale modern pilot figure from Hobbymaster could be added to the cockpit.

The Franklin Mint was a company that mass-marketed collectibles such as dolls, plates, knives, record sets, die-cast vehicles, and privately minted gold and silver coins and medallions. Many of the items were sold through advertisements on television and in magazines. In the early 2000s, The Franklin Mint acquired CDC Armour, a manufacturer of 1/48 scale die-cast model aircraft. The Franklin Mint took over the production of these model aircraft and added several new models to the product lineup. After many changes in ownership and a decline in the collectible market, The Franklin Mint's business operations were wound down and the company's assets sold off. The last 1/48 scale die-cast aircraft models offered by The Franklin Mint were produced in 2009.

The Franklin Mint also offered limited edition 1/48 scale die-cast aircraft models to dealers and distributors in other countries as exclusive releases. Today, these limited edition releases are some of the most sought-after The Franklin Mint/Armour Collection aircraft models among collectors. Exclusive models were also available for corporations to order for promotional purposes as long as a minimum production requirement was met.

The Mitsubishi F-15J Eagle is a license-built variant of the McDonnell Douglas/Boeing F-15 Eagle twin-engine, all-weather air superiority fighter for the Japan Air Self-Defense Force (JASDF). The F-15J was built in Japan by Mitsubishi Heavy Industries and incorporates some equipment produced domestically in Japan, such as the radar warning system and electronic countermeasures suite. A two-seat training variant, the F-15DJ, was also built. In recent years, the JASDF has been slowly upgrading its F-15 fleet with improved avionics, defensive countermeasures, air-to-air missiles, new engines, and a new ejection seat. These improved F-15Js are designated the F-15J Kai. With 155 F-15Js and 45 F-15DJs in service, the JASDF is one of the largest international operators of the F-15.

The Franklin Mint offered this 1/48 scale Mitsubishi F-15J Eagle die-cast model in 2005 exclusively for sale in the Japanese market. The F-15J model had a limited production run of just 500 pieces. The model sold out almost immediately and was nearly impossible to get outside of Japan. The model represents an F-15J flown by the 204th Fighter Squadron of the JASDF. This highly detailed large and heavy model, equipped with a weapons load of four AIM-9 Sidewinder air-to-air missiles, four AIM-7 Sparrow air-to-air missiles, as well as three external fuel tanks, makes an impressive and rare display piece in a model airplane collection.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Distelfink Airlines

Est. 2013

ABOUT DISTELFINK AIRLINES

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

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

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

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