

WINGS



NEWS

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Ronald Reagan Presidential Library Auschwitz Exhibition Tour



Photo by Dave Anderson

On April 19, 2023, Wings Over Wendy's members joined the Jewish War Veterans Group Tour of the Auschwitz Exhibition at the Ronald Reagan Library. Attending were: Dave Anderson, Lee Ambers, Ron Bogges, Bill and Dolores Garland, Victor and Penny Korechoff, Erick Lace, Chuck Mathews, Ken and Tilly Mayer, Ed Reynolds, Earl Roth, Glen Schecter, Bill Tapp, Karen and Timothy Velarde.

A bus was provided by Councilmember John Lee. The Exhibition took over 90 minutes to tour at one's own pace leaving time also to tour the Library and Air Force One exhibits.

April 2023

Meetings

April 3, 2023

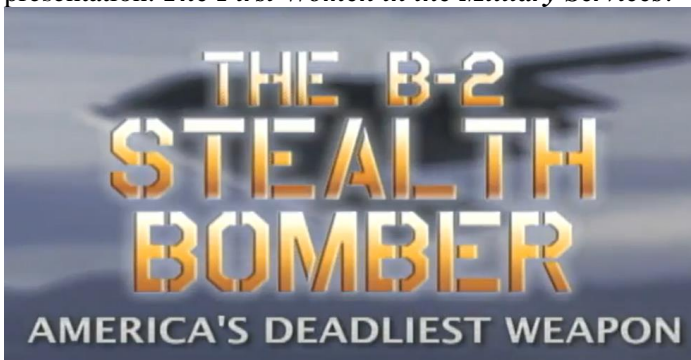


Photo by Larry Kushner

Ed Reynolds presents Maria Rodriguez with a Certificate of Appreciation and Wings Over Wendy's Bumper Stickers

Maria Rodriguez Awarded Certificate.

On April 3, 2023, due to a problem printing a Certificate of Appreciation the week before, Ed Reynolds presented Maria Rodriguez the certificate and Wings Over Wendy's bumper stickers for her March 27, 2023 presentation: *The First Women in the Military Services*.



B-2 Stealth Bomber Documentary

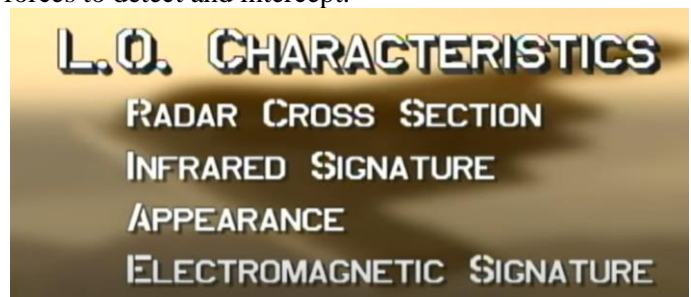
The featured presentation on April 3, 2023, was the B-2 Stealth Bomber Documentary. The documentary was divided into four sections.

Section one was titled "B-2 Stealth Bomber - Deadliest

Weapon." It provided a detailed introduction to the B-2 stealth bomber, an aircraft with impressive speed, range, and stealth capabilities. The documentary notes that the B-2 was designed to be invisible to radar, and as a result, it possesses a unique shape that reduces its radar signature.

The B-2 has several powerful engines and can fly at speeds of up to 630 mph while carrying out missions that can last up to 44 hours. Furthermore, the B-2 has a range of over 6,000 miles, allowing it to carry out missions across the globe. It is equipped with a variety of weapons, including conventional and nuclear weapons, and can deliver these weapons with outstanding accuracy.

The video notes that the B-2's advanced technology has given it a distinct advantage over other aircraft, allowing it to remain invisible to radar detection systems. It can also fly at high altitudes, making it difficult for enemy forces to detect and intercept.



Section two of the documentary is titled "*B-2 Stealth Bomber - LO Characteristics*." It provided a detailed overview of the B-2's advanced stealth technology and the design features that make it nearly invisible to radar detection systems. The documentary notes that the B-2 is covered in a special coating known as a "radar absorbent material" or RAM, which is designed to absorb radar waves and prevent them from bouncing back to the radar receiver. Additionally, the B-2 has a unique shape that reflects radar waves away from the receiver, making it difficult to detect.

The documentary explains that the B-2 also has advanced avionics systems that allow it to detect and avoid radar detection systems. For example, the aircraft is equipped with a system known as "Joint Tactical Information Distribution System" (JTIDS), which allows it to receive real-time intelligence data from other military aircraft and ground-based command centers. This system also allows the B-2 to remain connected to the military network even when other communication systems are disrupted or jammed.

Furthermore, section two explains that the B-2 has advanced engines that reduce its thermal signature and make it difficult to detect with infrared sensors. The documentary notes that the B-2's engines are designed to operate at a low temperature, reducing the amount of heat emitted. Additionally, the B-2 has an advanced cooling system that circulates cool air around the engines, further reducing their thermal signature.

(Continued page 3)

In conclusion, section two of the documentary describes the B-2's advanced stealth technology, highlighting the aircraft's unique design features, advanced avionics systems, and specialized engines that make it virtually invisible to radar detection systems.



The Aeronautics section of the B-2 Stealth Bomber documentary delves into the engineering behind this remarkable aircraft. The documentary explains that the engine placement is one of the key features that makes the B-2 unique. Instead of the traditional placement on the wings, the B-2's engines are positioned on top of the fuselage, close to the center of gravity. This design offers numerous advantages, including a decreased radar cross-section, improved maneuverability, and increased fuel efficiency.

Additionally, the documentary discusses the B-2's elavons, which are a type of control surface located on the trailing edge of the wings. Elavons combine the functions of both ailerons and elevators, and allow for precise control of the aircraft in both roll and pitch. The elavons work in conjunction with the B-2's advanced fly-by-wire flight control system, which makes use of computers to interpret pilot input and adjust the aircraft's control surfaces accordingly.

Overall, the Aeronautics section of the B-2 Stealth Bomber YouTube video provides a fascinating look at the cutting-edge engineering that went into creating this remarkable aircraft. Through its innovative engine placement and advanced control systems, the B-2 represents the pinnacle of modern aviation technology.



Section four of the documentary is titled "*B-2 Stealth Bomber – Missions.*" It discusses the various missions the

B-2 stealth bomber can execute. The B-2 has been designed to fulfill a variety of roles, including strategic bombing, reconnaissance, and precision strike missions. The plane's ability to penetrate even the most heavily defended airspace has made it an indispensable tool for the US Air Force.

One of the B-2's most important missions is strategic bombing. The plane is capable of delivering nuclear weapons to targets deep within enemy territory. This makes it a valuable asset in deterring aggression from hostile nations. In addition to nuclear weapons, the B-2 can also deliver conventional weapons, such as GPS-guided bombs, with extreme accuracy to destroy enemy targets.

The B-2 is also able to perform reconnaissance missions. Equipped with advanced sensors and cameras, the plane is able to gather intelligence from high altitudes, providing valuable information to ground forces. This makes the B-2 an invaluable tool for both military and civilian operations.

It can also perform precision strike missions. Equipped with advanced targeting systems and weapons, the plane can easily destroy even the most heavily fortified targets. This allows the US Air Force to carry out targeted attacks on critical enemy infrastructure, such as military command centers and communication networks.

Overall, the B-2 stealth bomber is an incredibly versatile aircraft, capable of executing a wide range of missions with precision and efficiency. Its ability to penetrate enemy airspace undetected makes it an indispensable tool for the US military, and its advanced sensors and targeting systems make it a valuable asset for reconnaissance and precision strike missions.

April 10, 2023



de Havilland DH.98 Mosquito

The Wooden Plane That Terrorized The Luftwaffe Battlefield Mysteries War Stories

(Continued page 4)

On April 10, 2023, the featured presentation was a documentary about the de Havilland DH.98 Mosquito titled *The Wooden Plane That Terrorized The Luftwaffe* in the Youtube “Battlefield Mysteries War Stories” series.

Following the April 3rd documentary on the USAF B-2 Stealth Bomber, we thought it would be appropriate to see a documentary on the WWII stealth bomber that was mentioned in the B-2 Documentary.

The Wooden Plane That Terrorized The Luftwaffe is an intriguing episode of the Battlefield Mysteries series on War Stories that explores one of the most unusual weapons of World War II. The documentary tells the story of the British military's secret mission to deceive the Germans into thinking that they had developed a new, undetectable type of aircraft that could evade radar detection and wreak havoc on enemy airfields.

The documentary starts with a brief history of the war and the Luftwaffe's dominance of the skies, then introduces the wooden plane at the center of the deception. The aircraft, known as the Mosquito, was a British twin-engine bomber that was made almost entirely of wood. It had a top speed of 425 miles per hour and was capable of flying at high altitudes, making it a formidable opponent for the German air force.

As the documentary explains, the Mosquito was not only fast and maneuverable, but it was also made of a material that was difficult for radar to detect. This made it ideal for sneaking past German defenses and delivering devastating airstrikes on military targets deep behind enemy lines.

However, the real power of the Mosquito lay in its ability to deceive the Germans. British engineers designed the plane to mimic the returns of a Focke-Wulf Fw 190 fighter-bomber, a common German aircraft at the time. By using a powerful radar jamming system, the Mosquito was able to give off a signal that was virtually identical to that of the Focke- Wulf Fw 190, making it extremely difficult for German radar operators to distinguish the two planes.

This tactic proved to be incredibly effective. In one notable incident, a group of Mosquito bombers took off from an airfield in northern England and flew straight across the North Sea toward Germany. Despite being spotted by German radar operators, the Mosquitos were mistaken for a group of Focke-Wulf Fw 190 s and were allowed to pass through German airspace unchallenged. Once they reached their target, the British pilots dropped their bombs and then flew back to England undetected, leaving the Germans scratching their heads over how they had been fooled.

The documentary goes on to explain that the Mosquito was used in a variety of different roles throughout the war. It served as a fighter bomber, a night fighter, and a reconnaissance aircraft and was even used to transport high-value personnel across enemy lines. As the war progressed and radar technology improved, the effectiveness of the Mosquito diminished, but it remained a key part of the British military's strategy for the remainder of the conflict.

In conclusion, *The Wooden Plane That Terrorized The Luftwaffe* is an engaging and informative look at one of the most unique weapons of World War II. The documentary does an excellent job of explaining how the Mosquito was developed and used and provides fascinating insights into the tactics and strategies used by the British military to deceive the Germans. This documentary is worth watching for anyone interested in military history or aviation.

April 17, 2023



Photo by Larry Kushner

Marion “Wonder Women” Lovelace Returns to WOW and Celebrates her 96th Birthday

After several weeks of illness, Marion Lovelace, WOW Secretary, returned to the meetings. Her good friends created a “Wonder Woman” display of Marion and Joe Weber brought it to the meeting. Marion celebrated her 96th birthday on the day before. We had missed her!



Codename Garbo Spanish Chicken Farmer Who Tricked Hitler, Saved D-Day & Got Awarded the Iron Cross

The featured presentation on April 17, 2023, was another Youtube video in the Secrets of War Series. Last month we watched a video on how Rommel was outsmarted in North Africa. This month we watched a video on how Hitler was tricked about D-Day. The title of the video was: *Codename Garbo: Spanish Chicken Farmer Who Tricked Hitler, Saved D-Day & Got Awarded the Iron Cross*

Juan Pujol Garcia, or the man known as "Garbo," is regarded as one of the most important double agents of World War II. A Spanish chicken farmer, Garbo managed to trick Hitler's regime, played a key role in the success of the D-Day landings, and was awarded the Iron Cross, Germany's highest military award. This video explores his incredible story of espionage, bravery, and determination.

Garbo's journey began in Madrid in the 1930s when he became disillusioned with the Spanish government's policies. He took a job as a chicken farmer and eventually decided to relocate to Britain, where he offered his services as a spy to the Allied forces. However, his initial efforts were met with skepticism, and he struggled to convince the British authorities that he was a legitimate informant.

In a desperate bid to prove his worth, Garbo posed as a Gestapo agent and contacted the German embassy in Lisbon. His ruse worked, and he managed to deceive the Germans into believing that he was working for them. Garbo then used this cover to feed crucial disinformation to the Nazis and convince them that the D-Day landings

would occur in Pas de Calais rather than Normandy.

Garbo's deception was so convincing that Hitler himself trusted him implicitly, and the German army shifted significant resources to Pas de Calais, leaving Normandy relatively unprotected. This allowed the Allies to secure a vital foothold in mainland Europe and ultimately contributed to the Allies' victory in World War II.

He didn't stop there. In 1944, he convinced the Germans that a phantom division was being assembled in Southern England, which played a key role in convincing the Germans to hold back troops that could have reinforced Normandy. This deception helped to secure the success of the Allied invasion of Normandy and solidify the Allies' position in Europe.

Garbo's contribution to the war effort was not lost on the British authorities. After the war, he was awarded the MBE, one of the highest honors bestowed by the British government. He was also awarded the Iron Cross, making him the only person to receive both the highest military honor from the Axis powers and one from the Allies.

His incredible story highlights the importance of espionage and disinformation during wartime. His success was due to his exceptional acting skills, quick thinking, and perseverance in the face of overwhelming skepticism. His bravery and determination are an inspiration to all, and his legacy continues to be celebrated to this day.

In conclusion, Codename Garbo is a remarkable example of how one person can make a significant impact on history. Garbo's espionage and deception played a vital role in World War II, and his bravery and determination are a testament to the human spirit. His story is one that should be remembered and celebrated, not only for its historical significance but also for the inspiration it provides to those willing to make a positive difference in the world.



Bob Bermant Comments on the D-Day Deception

(Continued page 6)

Wings Over Camarillo's Commitment to Honoring Veterans

Wings Over Camarillo has always been committed to honoring veterans and their service. The airshow includes a number of events and activities that pay tribute to our country's veterans. For example, there is a veterans' parade that allows attendees to show their appreciation for veterans. There are also static displays of military aircraft and vehicles, which offer a glimpse into our country's military history. (Continued page 8)

In addition, Wings Over Camarillo has featured special performances by veteran pilots and performers who have served in the military. These performances are a testament to the incredible skill and bravery of our country's veterans, and they serve as a reminder of the sacrifices that they have made for our country.

Finally, Wings Over Camarillo has partnered with local veterans' organizations to raise funds and awareness for veteran causes. These partnerships have helped provide critical support to veterans in need and ensure their sacrifice is not forgotten.

Remembering Fallen Heroes

Remembering the fallen heroes who have made the ultimate sacrifice for our country is an important part of honoring veterans. Wings Over Camarillo recognizes this and has made a special effort to pay tribute to those who have given their lives in service to our country.

One way that Wings Over Camarillo honors fallen heroes is through a special memorial ceremony. This ceremony provides a time for attendees to come together to remember and honor those who have lost their lives in service to our country. The ceremony typically includes a moment of silence, the playing of Taps, and a reading of the names of local fallen heroes.

In addition, Wings Over Camarillo has partnered with organizations that provide support to families of fallen heroes. These partnerships have helped to raise awareness and provide much-needed resources to families who have lost loved ones in service to our country.

Overall, remembering fallen heroes is crucial to honoring veterans, and Wings Over Camarillo is dedicated to ensuring that their sacrifice is never forgotten.

Honoring Living Heroes

While remembering fallen heroes is crucial, it is also important to recognize living veterans and their service. Wings Over Camarillo is committed to honoring living veterans and has taken steps to show appreciation for their sacrifice and dedication.

One way that Wings Over Camarillo honors living

veterans is through a special recognition ceremony. This ceremony provides an opportunity to recognize and thank veterans for serving our country. The ceremony typically includes a presentation of certificates of appreciation, a flag-folding ceremony, and a reading of the veterans' names.

In addition to the recognition ceremony, Wings Over Camarillo has partnered with organizations supporting veterans. These partnerships have helped raise awareness and provide resources to veterans struggling with issues such as PTSD or homelessness.

Overall, honoring living heroes is an important part of recognizing the sacrifice and dedication of veterans. Wings Over Camarillo is committed to doing its part to honor living veterans and support them in any way possible.

Conclusion

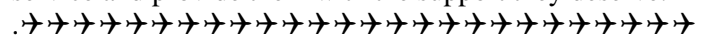
In conclusion, **honoring and supporting our veterans** is of utmost importance. These brave men and women have selflessly served our country and made countless sacrifices to protect our freedom and way of life. It's essential that we take the time to remember and appreciate their service.

Events like Wings Over Camarillo provide a fantastic opportunity to pay tribute to our veterans and show our gratitude for their service. The airshow's commitment to honoring veterans, fallen heroes, and living heroes is truly inspiring. From the static displays of military aircraft to the moving tributes to fallen soldiers, Wings Over Camarillo offers a powerful reminder of the sacrifices made by our veterans.

However, supporting veterans is not just about honoring them during special events. We must also provide them with the resources they need to successfully transition back to civilian life. Veterans face unique challenges when returning home, such as adjusting to civilian life, finding employment, and accessing healthcare services. It's crucial that we provide them with the support they need to overcome these obstacles and live fulfilling lives.

Thankfully, many organizations and charities exist to support veterans and their families. By supporting these organizations, we can help ensure that veterans receive the assistance they need to thrive. Wings Over Camarillo partners with several organizations to support veterans, including the Vietnam Veterans of Ventura County and the Camarillo Wings Association Scholarship Program. By attending the airshow and supporting these organizations, we can make a positive impact in the lives of our veterans.

In short, it's essential that we remember and support our veterans in every way possible. We owe them a debt of gratitude that can never truly be repaid. By attending events like Wings Over Camarillo and supporting organizations that help veterans, we can show our appreciation for their service and provide them with the support they deserve.





Dwight D. Eisenhower: Supreme Commander of the Allied Forces

On April 24, 2023, the featured presentation was the Youtube Biography that provided an overview of the life and early career of Dwight D. Eisenhower.

Dwight D. Eisenhower was born in Texas in 1890, but his family later moved to Kansas, where he grew up. His parents were deeply religious, and Eisenhower was raised with a strong sense of morality and a love for America. As a young man, he was an accomplished athlete, playing both football and baseball in high school and later attending West Point Military Academy.

After graduating from West Point in 1915, Eisenhower began his military career, but his first assignment was not on the front lines. Instead, he was assigned to serve as an assistant to General John J. Pershing, the American forces commander in France during World War I. There, Eisenhower worked in the War Department as a training officer, helping to organize and prepare American troops for battle.

After World War I, Eisenhower returned to the United States and continued his military career, rising through the ranks to become a major by the early 1930s. During this time, he began to develop a reputation for being an excellent organizer and strategist, skills that would serve him well in his future leadership roles.

In the mid-1930s, Eisenhower was assigned to duty in the Philippines, where he continued honing his strategic thinker and planner skills. There, he also developed a close relationship with General Douglas MacArthur, who would later become an important ally in Eisenhower's career.

In 1939, as war clouds were gathering over Europe, Eisenhower was recalled to the United States and assigned to create a plan to mobilize and train American troops for possible war. Eisenhower's plan was innovative and effective, and it helped the United States prepare for its eventual entry into World War II.

At the onset of World War II, Eisenhower was serving as the Chief of Staff of the Third Army in the United States. Despite considering retirement due to his lack of frontline

experience, Eisenhower was appointed to serve as a military observer in Europe in 1941 to gain more experience in the field. This broad-based experience gave him a unique perspective on the challenges and possibilities of war, especially in Europe.

In 1942, General George S. Patton Jr. was assigned to the US Army and placed in command of the American troops in the North African theater of the war. Eisenhower was appointed as Patton's deputy, and together, they led the assault on the enemy in North Africa, which ended with a decisive victory in May 1943. As a result of this victory, Eisenhower was promoted to Lieutenant General and was sent to England to plan the Allied invasion of Europe.

In 1943, Eisenhower was promoted to Supreme Allied Commander, putting him in charge of all Allied forces in Europe and Africa. He was responsible for coordinating the efforts of the various Allied nations and ensuring that their different military strategies were aligned towards the same goal. Under Eisenhower's leadership, the Allied forces secured victories across multiple fronts and ultimately defeated Nazi Germany in 1945.

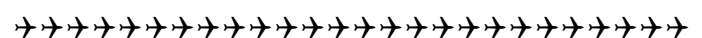
In England, Eisenhower worked closely with General Bernard Montgomery, the commander of British forces. Together, they devised a plan to invade Europe, codenamed Operation Overlord. After months of preparation and training, the invasion finally occurred on June 6, 1944, in what is now known as the D-Day Landings. Eisenhower commanded the Allied forces during the invasion and directed the successful landing of troops on the beaches of Normandy, France.

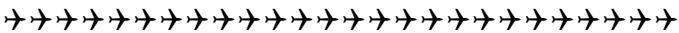
After the D-Day landings, Eisenhower continued to command the Allied forces as they pushed their way through France and into Germany. He was responsible for overseeing many crucial battles and strategic operations, including the Battle of the Bulge, which was a decisive Allied victory that helped lead to the end of the war in Europe.

Following the end of the war in Europe in May 1945, Eisenhower continued to serve as a military leader, this time in the Pacific Theater, overseeing the surrender of Japan in Tokyo Bay. He continued to work closely with other Allied leaders to determine the most effective ways to manage the post-war period.

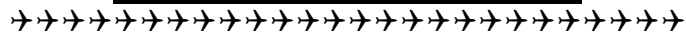
After the war, Eisenhower was appointed as the President of Columbia University, a position he held for several years before returning to military service to serve as the supreme commander of NATO forces in Europe. In the late 1950s, he entered politics and was elected as the 34th President of the United States in 1952, a position he held for two terms.

Throughout his life and career, Eisenhower was known for his leadership skills, strategic acumen, and ability to work collaboratively with others.





In Other News



The Air Force Is Offering Enlisted Airmen a \$10,000 Bonus to Join the Reserve

April 6, 2023 | By Greg Hadley

The Air Force is offering a \$10,000 bonus for prior-service enlisted Airmen who join the Reserve and fill an open job in an effort to boost flagging recruiting numbers for the component.

The bonus will be available to Airmen through Sept. 30, 2023, an Air Force Reserve Command spokesman told Air & Space Forces Magazine, with the potential of it becoming a standardized recruiting incentive.

The Active-Duty Air Force’s troubles meeting its recruiting goals have been well documented, as leaders and recruiters struggle with low unemployment rates, a competitive job market, and declining eligibility and propensity to serve.

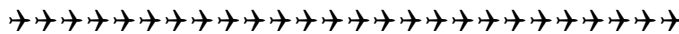
But things are even harder for the Guard and Reserve, which draw a majority of their force from Airmen leaving Active-Duty—the Reserve in particular aims for around 70 percent of its recruits to have prior service. Retention jumped during the COVID-19 pandemic and is still generally high. Fewer Airmen leaving Active-Duty means a smaller pool from which the Guard and Reserve can pull.

That all added up to the Reserve missing its fiscal year 2022 recruiting goal of 8,400 new members by nearly 2,000—around 24 percent shy, according to an Air Force release. That goal went up to 9,300 accessions for 2023, and an Air Force Reserve Command spokesman said projections have the Reserve coming up 3,500 short, roughly 38 percent, though recent trends have been more positive.

“This bonus is one of many policies and incentive adjustments to help the Air Force Reserve ensure we can recruit the quality Airmen we need to safeguard our combat readiness,” Maj. Gen. Ed Thomas, Air Force Recruiting Service commander, said in a statement. “The move is also important to encourage our Airmen separating from active service to ‘stay blue’ and continue to use their skills and training for the nation as part of the Reserve.”

In order to qualify for the bonus, Airmen must sign on for three years in the Reserve. That’s slightly shorter than required for the initial enlistment bonuses the Air Force offers for the Active-Duty component, which range from four to six years.

The Air Force expanded its use of initial enlistment bonuses several times in 2022 as recruiting struggled. Officials added another financial incentive this year by reinstating the Enlisted College Loan Repayment Program, which helps enlisted recruits pay back student debt up to \$65,000.



The Future USAF

By John A. Tirpak, March 31, 2023

Thirteen programs that offer a glimpse at what the Air Force’s drive to modernize could yield.

After a prolonged period of anemic aircraft recapitalization, the Air Force is launching a robust and fast-paced program of modernization. At least 20 new airplane programs—including a handful that are variants—are in some stage of planning or development. If sustained, this airplane-building campaign will lower the average age of the fleet, increase its size, and enhance its ability to be upgraded rapidly. But with so many new efforts underway, and the never-ending competition from funding “fight tonight” readiness and force structure demands, trade-offs and choices will have to be made.

For this summary, we have listed only programs that have been announced by Air Force leaders, or which have appeared in budget documents, been announced through industry solicitations, or otherwise disclosed through open sources. Programs already in series production—such as the F-35 and T-7A trainer—are not included. This list is not comprehensive, as many programs have changed names or concepts, may have been submerged in a new level of classification, or may not have been revealed publicly. Not all of these programs are likely to make it into production.

Mobility Aircraft



(Continued page 10)

Program: Advanced Aerial Refueling Family of Systems/ “Bridge Tanker”

Target Service Date: 2032

User: Air Mobility Command

The Air Force has dropped its decade-long, three-phase plan to recapitalize its KC-135 and KC-10 tanker fleets: known as the KC-X, Y, and Z. The KC-X, meant to recapitalize much of the KC-135 fleet, became the KC-46, and is delivering 179 aircraft through 2029. Its follow-on, the KC-Y, was to have been a 150-airplane program to complete replacement of the KC-135 and the KC-10. However, the Air Force has trimmed that phase to 75 “traditional” tankers—modified commercial airliners or cargo jets—and moved on to a stealthy, survivable future tanker known as the Next-Generation Air refueling System (or NGAS, see below) in the third phase. Although no longer called the “bridge tanker,” the Advanced Aerial Refueling Family of Systems is essentially that. The service will decide mid-2024 whether to hold a competition for the interim tanker or simply award Boeing a sole-source contract for more KC-46s with some additional communications and possibly command and control capability. Some members of Congress, unhappy with Boeing’s KC-46 performance, will push for a new competition. Lockheed Martin has put forward its larger LMXT tanker based on the Airbus A330 Multi-Role Tanker Transport (MRTT) for the bridge tanker.



Program: Next-Generation Air-Refueling System (NGAS, formerly KC-Z)

Target Service Date: 2040

User: Air Mobility Command

Air Mobility Command needs a stealthy tanker able to survive in contested airspace, in order to expand the fleet’s range and allow other aircraft to operate closer to well-defended targets. Air Force Secretary Frank Kendall has said USAF can no longer simply convert civilian airliners or freighters for tanking duty, but must have purpose-built aircraft that put a “high premium on survivability.” The Air Force asked industry for NGAS information in a Jan. 31,

2023, announcement, saying it’s open to a wide variety of operational concepts and aircraft designs, but the Air Force and the Defense Innovation Unit are already studying blended wing body (BWB) concepts, able to achieve at least a 30 percent efficiency improvement over the existing KC-135/KC-10 fleet. An NGAS Analysis of Alternatives will get underway in October. Formerly the “KC-Z” phase of a three-stage tanker recapitalization effort, the program is now known as “increment three.” USAF will entertain any ideas that can reach a Technology Readiness Level of 6—ready for a prototype—by 2032.

(No concept picture available)

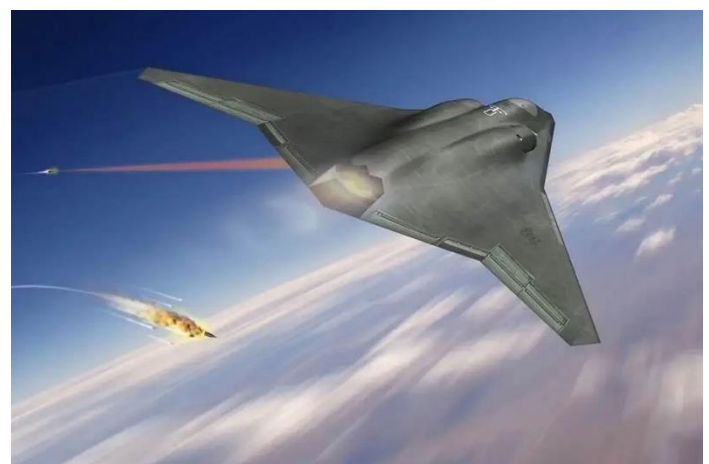
Program: C-X Strategic Transport

Target Service Date: 2045+

User: Air Mobility Command

The C-5 Galaxy received a major upgrade in the 2010s, which should extend its life into the 2040s, but the C-17 has not yet had a service life extension program (SLEP). Even if it does, the Air Force believes that more survivable aircraft, able to operate from areas without a large runway—perhaps without any runway—are its future. The “C-X” is a placeholder for a future strategic transport to succeed the C-5 and the C-17, likely having stealth and globe-girdling ranges, but the requirements are still being hashed out and will depend on many other choices made in the interim. With new tankers the focus in the near-term, and a reasonably healthy fleet of strategic lifters in hand—the C-17 fleet averages just 14.1 years old—the Air Force has time to decide what it really needs in a follow-on heavy lifter. Kendall has established a “cross-cutting capability task force” for airlift and tanking charged with developing a comprehensive mobility roadmap that meshes with his “operational imperatives.”

Tactical Combat Aviation



Program: Next-Generation Air Dominance (NGAD)

Target Service Date: 2030

User: Air Combat Command

(Continued page 11)

The Air Force describes the highly classified NGAD as not a single, crewed fighter but a family of platforms intended to collectively gain air superiority at a time and place “of our choosing.” The NGAD is needed because adversary aircraft, particularly those of China, are gaining in stealth and have long-range air-to-air missiles, driving USAF to seek a new fighter-like capability an order of magnitude stealthier than the F-22. Meant to succeed the F-22 circa 2030, the NGAD will comprise one crewed airplane and up to five Collaborative Combat Aircraft that will act as its wingmen and protect it from air, electronic/cyber, and surface threats. The Air Force will have invested more than \$9 billion in NGAD by 2025. Former USAF acquisition executive Will Roper in 2020 revealed that an NGAD “full-scale demonstrator” prototype had already flown and “broken a lot of records,” although he did not say whether those had to do with physical performance or speed of prototyping. Further, Roper’s vision was for a fresh NGAD design to become operational every five years, to keep up with rapidly advancing technology. Roper’s vision called for 50 to 100 NGADs that would be flown up to 15 years, then either moderately updated, retired or used in one-way missions, eliminating long-term sustainment costs. The NGAD is not meant to replace the F-22 on a one-for-one basis. At least one variant of NGAD will have sufficient range to operate in the Pacific with far less tanker support than today’s fighters. While the Air Force and Navy are comparing notes on NGAD technologies and seeking some commonalities, they are not pursuing a joint program. Kendall has mentioned a “notional” inventory of 200 NGADs, but has not offered a definitive fleet size.



Program: Collaborative Combat Aircraft

Target Service Date: 2030

User: Air Combat Command

The Air Force envisions Collaborative Combat Aircraft (CCA) as uncrewed, autonomous escorts for crewed airplanes, with an ultimate ratio as high as five CCAs to each fighter or bomber. They will perform missions such as Suppression/Destruction of Enemy Air Defenses (SEAD); intelligence, surveillance, reconnaissance (ISR); Electronic Attack/Electronic Warfare (EA/EW), secure communications, and potentially as battle management nodes, and provide “affordable mass” for the combat air forces. Air Combat Command requirements chief Maj. Gen. R. Scott Jobe said in March

2023 that it’s a “misconception” that CCAs will be “attritable,” saying they are meant to be capable platforms that will have years of service, though some will not be “unpacked” until they’re needed for combat. Kendall said in March he has tasked staff to examine how a 1,000-CCA force—with two each to accompany 200 NGADs and 300 F-35s—would be equipped, and how ACC would be organized to operate them. Kendall described the CCAs as analogous to flying, independent versions of the pods fighters carry for sensing and targeting, and wants them at a “fraction” to “half” of the price of the F-35, which costs about \$80 million each. Early versions are likely to be used as stealthy threat simulators in live-fly wargames. The service expects that a majority of CCAs will be of modular design, with payloads or even whole sections of the aircraft able to be changed out to fit required missions.

(No concept picture available)

Program: Penetrating Electronic Attack (PEA) aircraft

Target Service Date: 2030-2032

User: Air Combat Command

In the mid-2010s, the Air Force was working on two aircraft meant to carry the air-superiority fight inside contested enemy air defense zones: the Penetrating Combat Aircraft (PCA) and Penetrating Electronic Attack (PEA) aircraft. The PEA was described as a “stand-in jammer,” replacing and expanding on capabilities lost when the Navy/Marine Corps retired the EA-6B Prowler and curtailed their EA-18 Growler program, on which the Air Force relied. Former Air Combat Command chief retired Gen. Herbert J. Carlisle said in 2017 that he thought the PEA would beat the PCA into service, as the need for it is greater, given China’s heavy investment in spectrum warfare. He also said the PEA was likely to be “autonomous” or “semi-autonomous.” While the PCA is likely to have evolved into the crewed centerpiece of the NGAD program, the PEA may now be one of the CCA platforms in the NGAD family. ACC Commander Gen. Mark Kelly said in March that electronic warfare is the No. 1 function needed of CCAs.

Program: MR-F or MR-X

Target Service Date: Mid-2030s

User: Air Combat Command

When the Air Force’s F-16s reach the end of their already-extended service lives, circa 2035, the service will need a successor: a relatively low-cost aircraft able to act as a force-builder, as well as an aircraft the U.S. can use to partner with countries lacking the funds or sophistication to operate a high-end combat aircraft fleet. Chief of Staff Gen. Charles Q. Brown Jr. has described this aircraft, known in USAF planning documents as “MR-F” or “MR-X,” as a “fifth-gen-minus” aircraft, meaning it has more survivability than a fourth-generation F-16 but somewhat less complexity and cost than a fifth-generation F-35.

(Continued page 12)

First revealed in 2021 in tactical aviation planning documents, the MR-F/MR-X is not yet a program of record, and Air Combat Command has not signed out a requirement for it. Air Force Program Executive Officer for fighters and advanced aircraft, Brig. Gen. Dale White, said in August 2022 that “the MR-F piece is going to continue to be looked at, because at some point we’ll have to have a replacement” for the F-16. One potential option for MR-F/MR-X is a weaponized T-7A RedHawk trainer, built by Boeing, which could be fitted with hardpoints and sensors to provide a low-cost, easily maintained light strike and air defense capability.

Intelligence, Surveillance, Reconnaissance



Program: E-7 Wedgetail

Target Service Date: 2027

User: Air Combat Command

With USAF’s E-3 AWACS fleet mission capable only half the time—mainly due to obsolescing systems and a nearly-extinct 707 parts pipeline—the service moved in late winter to acquire the E-7A Wedgetail, an AWACS built by Boeing (originally for Australia) that has now been adopted by a number of U.S. allies. The E-7 is already in production, and the investments made in it by allies can be leveraged by the Air Force. After preliminary studies last fall, in March USAF awarded Boeing a \$1.2 billion contract to get underway and build two prototypes starting in 2025, which should be available for operational use in 2027. A total of 26 E-7s is planned, with the last one delivered circa 2032. Beyond that, the Air Force expects to conduct the future Air Moving Target Indicator mission with space-based assets. The E-7 will also have a Battle Management, Command and Control mission. It will be inherently interoperable with the air forces of allies who have already bought it, but USAF will be adding its own unique capabilities. The E-3 will be retained and upgraded until the E-7 can take the mission over.

Program: RQ-180

Target Service Date: Imminent or Already Operational

User: Air Combat Command

The Air Force’s gradual phase-out of the RQ-4 Global Hawk and U-2 Dragon Lady with no apparent successor

suggests a classified program is well in hand. While satellites have tremendous ISR capability, they lack the flexibility for quick repositioning to observe fast-developing events. The existence of the RQ-180—said to be a high-altitude, stealthy flying wing for penetrating intelligence, surveillance and reconnaissance work—is something of an open secret, but the Air Force has not officially revealed the aircraft. Budget documents, comments from senior USAF leaders and unexplained classified work with Northrop Grumman points to the RQ-180 as a possible technological pathfinder for the B-21 Raider, both programmatically and as part of “family of systems” that helps the bomber prosecute its targets. Northrop had a seven-year relationship with the Air Force’s Rapid Capabilities Office before the B-21 contract was awarded, and this work likely focused on the RQ-180.

Long-Range Strike



Program: Uncrewed B-21 “Raider” Bomber

Target Service Date: Mid-2020s to 2035

User: Global Strike Command

The B-21 program is expected to produce “usable assets” in the mid-2020s, and become the backbone of USAF’s bomber force in the early 2030s, as the B-1B and B-2 retire. While the Air Force still quotes a figure of “at least 100” B-21s as its buy objective, service leaders have quoted requirements of up to 150 of the aircraft, and outside experts say the service needs more than 200. Extremely stealthy, the B-21 has been designed with an open architecture to allow its many systems to be upgraded continuously in response to an evolving threat. The B-21 contract calls for the bomber to be “optionally manned,” and service leaders have been coy in discussing whether and when that capability will be demonstrated, but there have been no statements suggesting the requirement has been dropped. Air Force acquisition executive Andrew Hunter said at the aircraft’s rollout only that the crewed version is “clearly the focus” of the program right now. Not widely discussed by the Air Force, the B-2 will also have advanced sensors and ways to stealthily share the information it collects from deep inside enemy airspace.

(Continued page 13)

Its uncrewed capability may have been required to keep B-21s in heavily defended airspace for long periods for that purpose. Described as a “family of systems,” the B-21 also likely will rely on satellites for real-time targeting information and other “enabling” capabilities the Air Force has not discussed. The first B-21 rolled out in December 2022, and USAF leaders say five more are in work at Northrop Grumman’s Palmdale, Calif., factory. It is expected to make its first flight in the next few months, delayed about a year from initial predictions. The B-21 has been managed by the Air Force’s Rapid Capabilities Office. [See “The Case for the B-21 Raider,” on p. 44 for more information]

Program: Long-Range Bomber Collaborative Aircraft

Target Service Date: No Earlier than 2040

User: Global Strike Command

Among Kendall’s “operational imperatives”—seven hardware capabilities demanded by the evolving threat—is “defining the B-21 family of long-range strike systems,” and among those initially described were autonomous aircraft that could fly along with the B-21. These robotic wingmen could potentially provide fighter cover or electronic support for the bomber, or perhaps carry their own nuclear weapons. However, at the 2022 Royal International Air Tattoo in the U.K., Kendall admitted to reporters that such an idea is not proving “cost-effective,” and the idea had been tabled for now. Service officials have since said that the idea is not dead, but will depend on progress in CCAs developed for the NGAD program. If the technology takes off, bomber escorts could return, especially if adversary air defenses demand it. Air Force leaders say they are not contemplating CCA-like aircraft equipped with nuclear weapons, but that may change, as the status of strategic arms agreements with Russia are in flux, and no such agreements are in place with China.

Special Operations and Combat Rescue



Program: Advanced Tactical Transport

Target Service Date: ~2030

User: Special Operations Command

Under many names, and for at least 30 years, the Air Force has explored the idea of a stealthy special operations aircraft that could infiltrate and exfiltrate special operators in well-defended enemy territory, applying short takeoff/vertical landing concepts without the need to use prepared airfields. Early concepts explored rocket-assisted takeoffs and landings in special operations C-130 aircraft for STOVL capability, but the need for a dedicated low-observable craft in this role has only increased. In recent years, the Air Force has focused on improving its C-130-based special operations fleet, but an advanced tactical transport for SOF has recently been mentioned in the same breath with an advanced, small, stealth tanker with possible overlap between the two designs. In the 2000s, Lockheed Martin pushed a concept called VARIOUS, which featured a fan-in-wing concept, and could be scaled from small unmanned aircraft up to medium-size transports. VARIOUS or something like it could at first supplement and later succeed the CV-22 tilt-rotor used for infil/exfil of SOF, being inherently more survivable, and with a reduced crew. The program appears to be an outgrowth of a 2020s program called Project IX, and may be in the prototype stage.



Program: Future Combat Rescue Aircraft / Agility Prime Variant

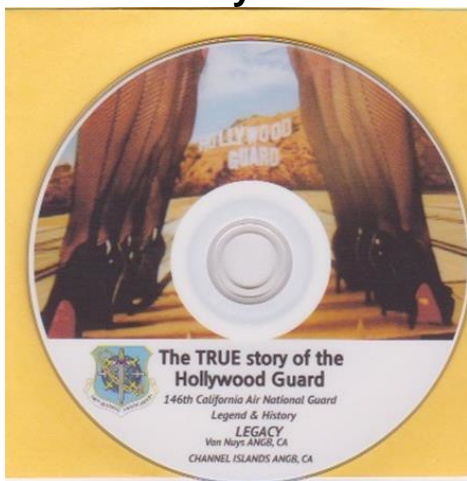
Target Service Date: 2028 or Later

User: Air Combat Command

The Air Force announced in 2022 that it would stop buying HH-60 Jolly Green II Combat Rescue Helicopters after acquiring the 75th aircraft, well short of the program objective of 113. The service said that in the Pacific theater and elsewhere, downed Airmen are likely to be beyond the practical range of the HH-60 or other protective force elements, and Air Combat Command is studying how it will reimagine and conduct the combat search and rescue mission. While the CV-22 has been suggested as an alternative—given its greater speed and range versus the HH-60—it lacks the stealth and survivability ACC will likely require in the future.

(Continued page 14)

Wings Over Wendy's Future Events:



In 1946 the 146th Fighter Group was activated at the Van Nuys Airport. For the next 42 years the 146th changed airplanes and missions. In 1988 the 146th Airlift Wing relocated to Channel Islands Air National Guard Base at Port Hueneme.

While at Van Nuys, the 146th worked closely with movies and television studios. This documentary tells the story of how the 146th became known as the Hollywood Guard.

Date: Wednesday, 17 May 2023

Check in starts at 5:30

Buffet line starts at 6:30

Program starts at 7:30

RSVP to Dan Pemberton at dhpinto@aol.com or 805-807-7788

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Prayers

Unfortunately, several of our most active members are at home, recuperating from their injuries or illnesses.

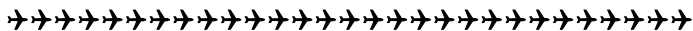
Our prayers are for a speedy recovery and a return to our meetings: **Hillard Lewinson**

New Members & Guests

We welcomed the following guest to the April 2023 meetings: **LAPD Senior Lead Officer Cory Garza**

May Birthdays

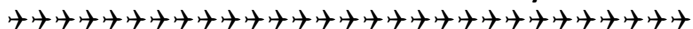
Glenn Gates	May 04, 1947
Robert Lanthier	May 11, 1948
Bob Bermant	May 12, 1940
Harvey Cohen	May 12, 1922
Michael Sugar	May 12, 1946
Hillard Lewinson	May 13, 1926
Rosadel McClure	May 13, 1932
Karen Vegtel	May 16, 1950
Gordon Osborne	May 17, 1932
Bob Peters	May 17, 1939
Jim Sommer	May 17, 1959
Lenny Bloom	May 20, 1931
Stanley DeCovnick	May 22, 1932
Maurice Vasquez	May 22, 1968
Patricia Wyatt	May 23, 1946
Anne Marie Radel	May 25, 1960
Lee Ambers	May 27, 1935
Corinne Ho	May 29, 1972



Wings News Patrons

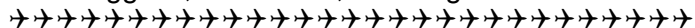
The following is a list of WOW members who have contributed \$10 to fund the publication for **10 months**.

- | | |
|------------------|--------------------|
| David Alvarez | Lee Ambers |
| Steve Andersen | Dave Anderson |
| Lillian Anderson | Shirley Andrews |
| Lee Auger | Phil Aune |
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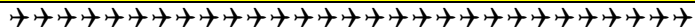




WOW Events Calendar Additions


Because of Wings Over Wendy's members' high participation in their events, the **teamup.com WOW Events Calendar** has been extended to include: ANA Meetings, MOAA/MOWW Meetings, and Operation Gratitude Events.

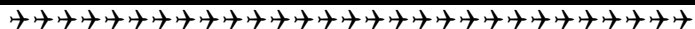
The key is: **kswpwdaevnb1jans4**



Reminder

Wings Over Wendy's monthly food drive is Monday, May 1st





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For Help with your Zoom Connection

Contact: Charles Scott

(818) 448-1737

pcinfoman@gmail.com

The WOW Zoom Equipment GoFundMe account link
is: gf.me/u/x9pst6.

Charles has offered to help Wings Over Wendy's
members with their computer problems for FREE.



Richie Mills
President

Tel: 818.312.9770

Cell: 818.620.8164

Fax: 818.312.9771

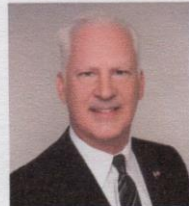
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