

A vintage silver jet aircraft, possibly a Gloster Meteor, is the central focus, parked on a tarmac. The aircraft is shown from a rear-quarter perspective, highlighting its swept-back wings and large tail fin. The tail fin features a dark silhouette of a bird and some text, including "IONS", "ASSA", "STER", and "57". The fuselage has a prominent roundel insignia. The aircraft is set against a dramatic sky with a bright sun low on the horizon, creating a golden glow and long shadows. In the background, other aircraft are visible, including one with "ROYAL AIR FORCE" written on its side. The overall mood is nostalgic and historical.

Skypwriting



Above Photo: North American Sabre. Photo courtesy of James S. Wood.

Cover Photo: Dassault Mystère IV. Photo courtesy of Scott Youmans.

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CONTACT PASM

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MUSEUM HOURS

9 a.m. to 5 p.m.

Last admittance at 3 p.m.

Closed Thanksgiving and Christmas Day

TOURS

Tram Tour:

Offered daily, availability dependent on weather. Check with admission staff for times and details.

“Boneyard”/AMARG Tour:

Monday-Friday, excluding Federal Holidays. Reservations must be made at least 16-business days in advance by submitting a *Reservation Request* online at www.pimaair.org. Participants are required to submit to a background check to be eligible.

CONTACT TMM

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WINTER MUSEUM HOURS

(November - April)

Sunday - Friday: 9:45 a.m. to 5 p.m.

Saturday: 8:45 a.m. to 5 p.m.
(last tour begins at 3:45 p.m.)

SUMMER MUSEUM HOURS

(May - October)

Sunday - Friday: 9:45 a.m. to 4 p.m.
(last tour begins at 2:45 p.m.)

Saturday: 8:45 a.m. to 5 p.m.
(last tour begins at 3:45 p.m.)

Closed Thanksgiving and Christmas Day

From the Chairman's Desk



I hope everyone has had a very enjoyable summer and thank you for your ongoing support for the Arizona Aerospace Foundation and its two world-class museums, the Pima Air & Space Museum and the Titan Missile Museum.

The Southwestern desert has a certain mystique around the world and there is so much to offer tourists looking for an exceptional experience. We are expecting this trend of visitor growth in the region to continue as the notoriety of our museums continues to spread through advertising, word of mouth, documentary specials, radio, podcasts, websites, and more.

The growth of the Collection is important to us. Through our relationships with key industry partners and the Base Operations and Civil Engineers at Davis-Monthan AFB, we were successful in acquiring the very first Boeing B777 Airliner ever produced and the first in service as a permanent display in our collection! And if that were not enough it was closely followed by a very early Boeing B-747-100 that has been used for engine testing and development by General Electric.

We're more than a military museum. In fact, our charter has always been to exhibit and interpret the breadth of aerospace technology and the stories of the men and women that create and use them. We have some fascinating potential acquisitions on the horizon that will continue to expand the scope of our collection.

Of course, we cannot forget about our jewel of an attraction, the Titan Missile Museum. We are honored to be able to provide a glimpse into the past for the public to learn about this program. We continue to strive to maintain and preserve this site through improvements such as installing long life energy efficient LED lights in the historic silo complex to create a stable internal environment.

If you haven't visited us in a while, be sure to come and visit us again soon, we are always changing and growing and that is only possible because of your support!

- Count Ferdinand von Galen



From the Executive Director



Welcome to this latest edition of Skywriting. As Count von Galen has already indicated, 2019 is shaping up to be another successful and exciting year.

We are always pursuing new aircraft and artifacts to build our collection so that we may better preserve, interpret, and educate patrons of all ages about the global aerospace heritage. To that end, we receive numerous donations of personal items on a regular basis

from one or two items to boxes and boxes reflecting an entire aviation career. We've also been busy acquiring new aircraft, most notably, the airliners mentioned by the Count already – but in addition we received a UH-60M Blackhawk from the U.S. Army and a F-18A Hornet from the National Museum of the United States Marine Corps that has the distinction of being the very first Marine Corps F-18 to launch an offensive attack during the first sorties of the 1991 Gulf War. We have also acquired a Fokker Friendship that was formerly used for decades by the U.S. Army 'Golden Knights' parachute display team. With these new acquisitions, we are proud to report that our collection now numbers over 360 aerospace vehicles!

A new venture that you can read about in more detail in the issue is our new partnership with one of the world's premier female aerobatic and air race pilots – Mélanie Astles of France. Our mutual desire to inspire young and old alike, to develop a passion for aviation, and to make history together led to our relationship. She is an incredible athlete and pilot and very charismatic ambassador. At the end of her aerobatic career, her Extra 330SC plane will join our permanent collection along with select artifacts from her career achievements. I would encourage you all to visit her website and follow the team on Facebook and Instagram.

I hope you enjoy this issue of Skywriting; it is a lot of work for our staff to put together, but I know it is a labor of love. At the heart of this organization are its people; the staff, the volunteers, its patrons, trustees and, its members. Without everyone working together on our shared love of aerospace history we would not be able to have achieved the stature and success that this museum enjoys globally. Thank you all for your commitment to us and we'll have plenty to showcase in our next issue.

- Scott Marchand

A handwritten signature in blue ink, appearing to read 'Scott Marchand', written in a cursive style.

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Latest News



Placing the Boeing 747 & 777 in position

There's always something big happening at Pima Air and Space Museum. Sometimes it's really big! The first ever Boeing 777 has its final home here in Tucson. Its first flight was 25 years ago this June and is known for being the first entirely computer-designed commercial aircraft. The 777 can be seen next to the 747 behind Hangar 5 and we have restructured the fence line for a monumental display of commercial aviation history.

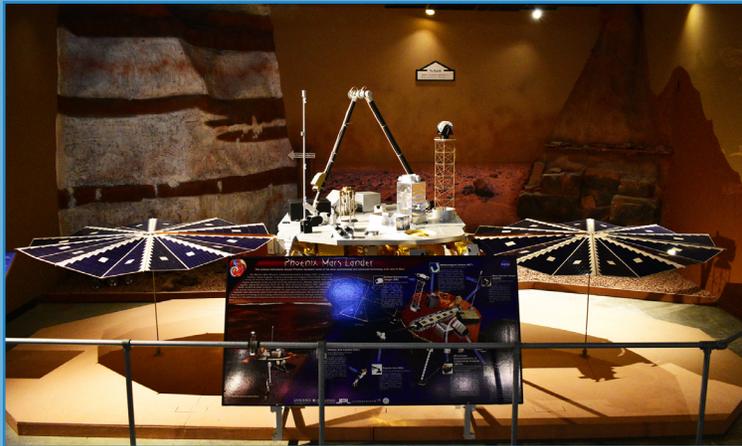


Incoming Sikorsky UH-60M Blackhawk

We're looking forward to rolling out the Blackhawk (above) after its time with our crew in Restoration.

The former U.S. Army Golden Knight's Fokker (below) is already out on the grounds in an area of the museum you won't want to miss.

We're making updates to the Space Gallery! We plan to introduce more aerospace technology and displays. This hangar is currently closed as we work to improve your experience.



Fokker Friendship tug after arriving at DMAFB

To Dream, to Fly, to Inspire...

Mélanie Astles Biography

Mélanie was born on 30 May 1982 in Rugby, England, to a French mother and a British father. Mélanie and her parents left for France when she was three years old. Brought up in the South of France in a very modest home environment, she went to school in Monaco. She wanted to become a fighter pilot but was quickly discouraged by the fact that there was only one female pilot in the army at the time.

Her story is one of passion, perseverance and overcoming the odds. Nobody believed that she could fulfil her childhood dream to become a pilot when she quit school at 18 to enter adult life.



When she took a job in a petrol station in the South of France near where she lived, the dream seemed far away. But thanks to her relentless work, she became manager of several petrol stations. She was then able to save money to pay for flying lessons, which she started at age 21. She met Laurent Gil, her first instructor, who immediately recognized her talent and encouraged her to pursue a career professionally.

Mélanie has always lacked in financial support. She began working for free at the flight school and leveraged enough free lessons to meet the standard required amount for becoming a commercial pilot. Shortly after getting her pilots license in her very first year in aerobatics competition, she achieved victory at the French Cup in the "Espoir" category.

In 2009, she became a flight instructor and eventually gained a job at the National Aviation School. She returned to competition in 2010 where she won several titles including the French championship. She was then registered on the elite sportswoman list by the French Ministry of Sport and earned a spot on the prestigious national French Aerobatic Team.





With focused and steady commitment, she worked her way up the categories. In 2014, she was 7th overall at the Aerobatics World Championships “Advanced” level and first at the female ranking. In 2015, she ranked the world’s 5th best female pilot in the highest category “Unlimited” and was a member of the French team which won the world title. In 2016, she qualified as an Airbus A319/320 pilot.

To date, she’s a five-time French Champion with top ten rankings at European and World levels, as well as French team honors, the first woman to compete in the famous Red Bull Air Race

Series Challenger Class, and in the 2017 finale at Indianapolis Motor Speedway, she became the first female race winner in the history of the Red Bull Air Race. Additionally, the achievement made her the first woman to win a major motorsport event in more than 100 years of racing at the famous American oval. She is also the 2019 British Unlimited Aerobatic Champion.

Outside of flying she is an ambassador for the association “Les Ailes du Petit Prince” an aviation make-a-wish style foundation for terminally ill children, as well as sponsor of a squadron of the French Army Light Aviation flight school, the “Escadrille des Services d’Aerodrome.”

Her passion for aviation, cheerful and engaging character, and desire to share her experiences and devote time to those like herself that had a dream but needed to overcome obstacles through determination and hard work, led to the partnership with the Pima Air & Space Museum. **As she flies our colors we are proud to be a key sponsor and to make history together.**



Aircraft of Desert Storm

By James Stemm, Director of Collections and Restoration

In less than a year, on August 2, 2020, it will be thirty years since the beginning of the First Gulf War, better known as Desert Storm. It holds a unique place in military history as the first major war for the United States after the Vietnam War, and the first war to be televised to the world virtually live as it happened. Images of anti-aircraft fire tinted green by low light television cameras and grainy black and white video transmitted from the nose mounted cameras of smart bombs were first introduced to the general public during the opening stages of the war. An obscure Soviet designed surface-to-surface missile called the SCUD became a household word as more than 80 of them rained down on Israel and Saudi Arabia.



To mark the anniversary, the Pima Air and Space Museum installed an exhibit featuring artifacts and images of the war and the people who fought it. It includes uniforms and equipment of combatants on both sides of the conflict and features two American fighter pilots, Jeffrey Fox and Jeffrey Tice, who have donated artifacts and clothing from their time as Prisoners of War in Iraq after their aircrafts were shot down. The exhibit is the newest permanent display in the Spirit of Freedom Gallery in Hangar 1.



In addition to the artifacts to be displayed in the exhibit, the museum's aircraft collection features at least eleven aircraft that participated in Desert Shield and Desert Storm.

1. North American OV-10 Bronco: Our OV-10 was one of the last in service with the Marine Corps in 1990 when it, along with the rest of VMO-2, deployed to the Persian Gulf in the build up of U.S. Forces. There they worked as forward air controllers, identifying and marking targets for strike fighters. Two Marine OV-10s were shot down during the war with three of the four crew members captured and one killed. (right)



2. SEPECAT Jaguar GR3A: Great Britain joined the coalition to evict Iraq from Kuwait with over 50,000 troops and more than 100 aircraft. Among the planes rushed to Saudi Arabia in August 1990 was the SEPECAT Jaguar that is now a part of the museum's collection. At the beginning of the war, the RAF had no stocks of desert camouflage paint. In order to deploy aircraft as quickly as possible the squadrons mixed commercially available paints resulting in a wide range of colors from light tans to pink. The museum's Jaguar remained in Saudi Arabia for several months but had been returned to the United Kingdom before combat operations began in January 1991. (left)



3. Vought A-7E Corsair II: The Corsair was another Vietnam War era design that was reaching the end of its service life with the U.S. military when the Gulf War broke out. The last two squadrons in Navy service VA-46 and VA-72 deployed on the USS John F. Kennedy and participated in combat strikes for the duration of the war. The museum's Corsair flew with VA-46. The bomb markings on the side of the aircraft do not represent individual missions flown but rather the actual number of bombs dropped. This was the final deployment for the A-7 and all the aircraft were retired immediately after they returned to the U.S. in May 1991. (right)



4. General Dynamics F-111E Aardvark: The U.S. Air Force deployed eighteen F-111E Aardvarks from their base in England to Turkey to participate in Desert Storm. These aircraft along with sixty-six F-111F were used to conduct precision strikes with guided and unguided bombs on command bunkers, airfields and other high priority targets in Iraq. The museum's F-111E was assigned to the 77th Tactical Fighter Squadron at RAF Upper Heyford and was one of the eighteen F-111Es deployed to Incirlik Air Base in Turkey. (left)



Aircraft of Desert Storm

Continued

5. Boeing B-52G Stratofortress: The Boeing B-52 was the only one of the American strategic bombers to participate in Desert Storm. Most of the planes to participate in the war were based in England or on the island of Diego Garcia. However, on the first night of the war seven B-52Gs, including the one now housed in the museum's collection, flew what was at the time the longest combat mission in history. Flying from Barksdale AFB in Louisiana to Iraq and back nonstop. The seven aircraft were in the air for over 34 hours. In all, B-52s dropped more than eleven million pounds of bombs on Iraqi targets. (right)



6. Boeing VC-137B: The militarized version of Boeing's 707 airliner is best known as the first jet powered aircraft to serve as Air Force One. However, with the exception of the two aircraft dedicated to Presidential transport, most spent their time providing transportation to lower ranking government and military dignitaries. The Gulf War provided the second opportunity for the aircraft now housed in the museum to use the call sign "Freedom One" when it was used to transport repatriated American POWs to the United States from Iraq. The first time it used this call sign was when it carried the American hostages from Iran back home after their release in 1981. (left)

7. McDonnell-Douglas F/A-18A Hornet: In 1990, the Hornet had yet to attain the dominant position it now holds as the primary fighter for the U.S. Navy and Marine Corps. The United States deployed nearly 200 Hornets to the Persian Gulf region both on aircraft carriers and land based. One of these Hornets, F/A-18A Bureau Number 163132, is now undergoing restoration at the Pima Air & Space Museum. This plane holds the distinction of being the first U.S. Marine Corps F/A-18 to drop a bomb in combat while flying with VMFA-451. (right)



8. Boeing Vertol CH-46 Sea Knight: The Sea Knight was the primary medium lift helicopter for the U.S. Navy and Marines from 1962 until 2015 and was seen in every major American combat operation from Vietnam to Afghanistan providing troop and cargo transport. The CH-46 that is now in the museum's collection served with HMM-263 flying from the USS Guam during the Gulf War. The troops on the Guam and other amphibious warfare ships provided a credible threat of an amphibious landing on the coast of Kuwait. While the landing never took place the threat of it forced the Iraqi military to split their forces to cover the possibility. (left)

9. Sikorsky MH-53 Pave Low: The MH-53 is the special operations variant of the CH-53 Jolly Green Giant that was developed during the Vietnam War for long range search and rescue. Equipped with low light sensors and navigation equipment, the MH-53 specialized in delivering Special Forces troops behind enemy lines at night. It was this function that the MH-53 at the museum performed throughout Desert Storm, beginning on the first night when it delivered troops to destroy Iraqi radar sites and continuing throughout the search for Iraq's mobile SCUD missile launchers. (below)



10. Lockheed S-3B Viking: The Viking was the primary carrier based anti-submarine aircraft for the U.S. Navy from the early 1970s until 2009. By the time of Desert Storm, the Viking had been upgraded with newer electronic systems and the ability to fire the Harpoon anti-ship missile making them just as dangerous to enemy surface ships as they were to submarines. The colorfully painted Viking now on display at the museum served with VS-31 on the USS Eisenhower. The "Ike" was one of the first carriers to arrive during the Desert Shield build up. The ship and its aircraft participated in the maritime interception operations that enforced the United Nations embargo on trade with Iraq, a job perfectly suited to the Viking. (below left)



11. Boeing 747: The Civil Reserve Air Fleet (CRAF) was formed by the United States in 1952 to provide a reserve of civilian airliners that would give additional airlift capability to the U.S. Air Force in case of war. Major airlines promised to provide aircraft to the military within 48 hours of being called on and in exchange the military guaranteed a certain amount of charter business to the airlines during peace time. The Gulf War was the first time the CRAF program was activated by the military. The airliners were used to transport large numbers of troops and cargo from the United States and Europe to the Persian Gulf. The massive and swift buildup would not have been possible without the airliners and crews pressed into emergency service. Among the aircraft that participated was the Boeing 747 then owned by Pan American Airways and now housed at the museum. (above right)

The Bridge to the Moon

By Yvonne Morris, Director of Titan Missile Museum

“That’s one small step for a man, one giant leap for Mankind.” These are the famous words spoken by Neil Armstrong 50 years ago this year, as he became the first human to set foot on the moon.

Before he made that epic journey to the moon on Apollo 11, Armstrong made his first voyage into space on March 16, 1966 aboard Gemini VIII, a modified Titan II rocket. And if events on that flight had gone just a little differently, it’s likely that humankind’s first historic steps on the moon would have been taken by someone else.

Lift off of Gemini VIII



At the same time that the Titan II rocket body was being deployed as an intercontinental ballistic missile by Strategic Air Command (SAC), it was being used by NASA in the Gemini program. The Gemini Program was designed to be NASA’s “bridge to the moon,” taking the next steps in space that would lead to the Apollo Program. The Titan II GLV (Gemini Launch Vehicle) launched twelve Gemini missions from 1964 to 1966. One of the goals of the Gemini program was to perfect the technique needed for two spacecraft to rendezvous and dock in orbit. This was Armstrong’s mission on Gemini VIII.

The Gemini VIII was to rendezvous and dock with the unmanned Agena Target Vehicle (ATV). This was the first time that two objects in orbit would successfully dock. The maneuver would have implications for future space travel, enabling such programs as Apollo to travel to the moon. It was also a boost for the United States during the Space Race of the Cold War. Armstrong was joined on the mission by astronaut David Scott.

Agena Target Vehicle (ATV) viewed from Gemini VIII



Shortly after docking, the two spacecraft began to spin. The crew assumed the ATV was at fault and undocked from the ATV. Unfortunately, this resulted in the Gemini capsule spinning and tumbling even faster. The violent tumbling of the capsule threatened to make both astronauts black out. Fighting to stay conscious, and struggling with blurred vision, Armstrong disengaged the OAMS (orbital attitude and maneuvering system), which later investigation confirmed to be at fault. He brought the vehicle under control using the re-entry system control (RSC) thrusters. If Armstrong had not managed to get the capsule under control before he blacked out, there's a strong likelihood that he and Scott would have perished in space.

Gemini VIII docking with the ATV

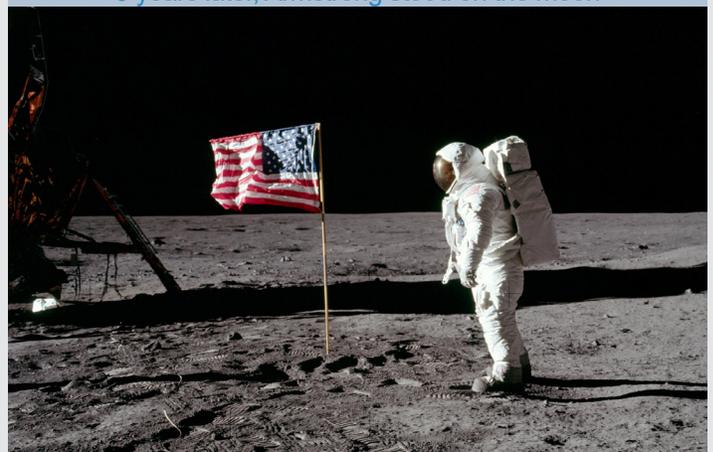


Seventy-five (75) percent of the RSC propellant had been used to stabilize the space capsule, so an emergency splashdown was prepared. After a successful re-entry, Armstrong and Scott were picked up by the USS Leonard Mason approximately 800 km west of Okinawa, Japan.

Armstrong and Scott after splashdown



3 years later, Armstrong stood on the moon



On July 20, 1969, the crew of Apollo 11, Michael Collins, Neil Armstrong and Buzz Aldrin, successfully achieved the goal President John F. Kennedy had announced to the world eight years earlier: to perform a crewed lunar landing and safe return to Earth.

Upcoming Events

Night of Fright gives you and your family a chance to trick-or-treat on the weekend. Come in costume, play games, win prizes, and do it all under our Hallowings. Don't expect to be scared unless you're afraid of a good time.



PIMA AIR & SPACE MUSEUM
presents
NIGHT OF FRIGHT

\$10 Admission
Members, Kids 12 & Under
FREE

Saturday, October 26th 5-9pm

The poster features a black background with a large, glowing orange moon in the upper right. Two white skeletons are positioned on either side of the central text. The title 'NIGHT OF FRIGHT' is written in a large, jagged, orange font. The Pima Air & Space Museum logo is in the top left corner.



WINGS & WHEELS



PIMA AIR & SPACE MUSEUM

SOUTHERN ARIZONA MILITARY VEHICLE COLLECTOR'S CLUB

Nov. 16th 9am-4pm

with vehicles from
PIMA COUNTY SHERIFF'S DEPARTMENT

and activities with the
390th MEMORIAL MUSEUM

Explore historic military motorcycles, Jeeps, and trucks displayed under our collection of over 360 aircraft. The event is free with admission and members are always free. The Sheriff's Department and 390th Memorial Museum will help make it a memorable day.



Plan your next event with us!



PIMA AIR & SPACE MUSEUM

Arizona's Most Unique Venue



Restoration



Hård at work



Sikorsky CH-37B Mojave headed back to Restoration



Lockheed T-33 headed back on display



Cessna 172M now on display



Dassault HU-25A Guardian in Restoration



Focke-Wulf Fw 44J Stieglitz headed back to Restoration



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