

FlightPlan

A VOLUNTEER NEWSLETTER BY VOLUNTEERS



Captains Corner

Page 3

Why Fly the Goose?

Page 8

Lindbergh Goes to War

Page 12

EVERGREEN
AVIATION & SPACE
MUSEUM



VOLUME 12
ISSUE 4
APRIL 2025

WELCOME NEW VOLUNTEERS!

Let us welcome and congratulate the following volunteers who have completed their 50 hours of training:

JANUARY

BRIAN GREENSTREETSaturday Space Docent

CLEMONS “MIKE” DUNCANSaturday Space Docent

JEFF MILBERGSunday Space Docent

FEBRUARY

PETE BAURWednesday Space Docent



CAPTAINS CORNER

DAN OVEN

SUNDAY DAY CAPTAIN

The March 5th BOC meeting was a busy one with many topics before the Board. Topics are presented below; to avoid a multi-page report, anyone with further questions regarding the discussions can contact their Day Captain.

Scot Laney – Chief Executive Officer

- Asked that docents follow protocol with their suggestions and ideas. In other words, go through their Day Captain with the Curation Collaboration form rather than directly to the CEO.
- The major campus buildings have been rebranded the East Pavilion (Space) and the West Pavilion (Aviation). This is designed to promote a greater percentage of guest attendance in the former Space building.
- The black curtain in the East Pavilion will be taken down, giving guests an excellent view of the German V-1 and V-2 area.
- Reminded all that East Pavilion Space docents should be out on the floor most of the time talking to guests.
- There may be scheduled tours in the East Pavilion, subject to scheduling.
- Restoration has four main projects in line: the C-47, the Beech 18 (C-45), the Huey P-1, and the F5D NASA aircraft currently outside.
- Restoration tours are scheduled to begin in April, timing and duration to be determined.
- The F-14 Tomcat will be moved to the East Pavilion, and the A-10 Warthog will be moved back permanently.
- The Curtiss Falcon, on loan from the Collings Foundation, has been sold. It will be removed from the West Pavilion this month.

Old Business:

- Curation Collaboration: A spreadsheet printout showing all submitted ideas and their status will be posted in each break room. It will be updated monthly.
- Dan Oven is establishing a folder which will hold the various forms that Day Captains are required to complete.
- Year of the Volunteer: A report on what each day covers in its training process is being completed and consolidated so that all days can use it.
- FlightPlan update: The updated newsletter is scheduled for release by April. It will be 12 to 15 pages long with specific limits on article size and other criteria.
- Augmented Reality Status: The program is on a temporary hold. It was found that moving aircraft, particularly in the Restoration area, invalidated some of the recordings.
- The John Rasmussen Award will henceforth be determined by the Board of Captains and Department Leads.

New Business:

- It was suggested that the airline seats by the entrance to the DC-3 be moved across the aisle for better viewing. That was approved. Remember, guests inside the DC-3 may not sit in the seats, and no guests are allowed in the aircraft without an accompanying and trained docent.
- SR-71 tours are being considered for the future, thanks to Andy Meyer for the proposed tour.
- Bud Varty will explore getting standardized “Tour Operator” badges/pins (wood or metal) to issue.

LAUNCHES SCHEDULED FOR THE MONTH OF APRIL 2025

Soyuz MS-27

- Russian Federal Space Agency (ROSCOSMOS)
- April 7, 2025
- **Mission:** Soyuz MS-27 will carry two cosmonauts and one astronaut to the International Space Station aboard the Soyuz spacecraft from the Baikonur Cosmodrome in Kazakhstan. The crew consists of Roscosmos cosmonauts Sergey Ryzhikov, Alexey Zubritsky, and NASA astronaut Jonathan “Jonny” Kim.

TRACERS

- SpaceX at Cape Canaveral
- April 13, 2025
- **Mission:** NASA’s Tandem Reconnection and Cusp Electrodynamics Reconnaissance Satellites (TRACERS) mission, consisting of two identical satellites that will orbit Earth in tandem (one following the other), will help understand magnetic reconnection and its effects in Earth’s atmosphere. Magnetic reconnection occurs when activity from the Sun interacts with Earth’s magnetic field. By understanding this process, scientists can better understand and prepare for the impacts of solar activity on Earth.

Dragon CRS-2 SpX-32

- SpaceX at Cape Canaveral
- April 21, 2025
- **Mission:** 32nd commercial resupply services mission to the International Space Station operated by SpaceX. The flight will be conducted under NASA’s second Commercial Resupply Services contract. Cargo Dragon 2 brings supplies and payloads, including critical materials, to directly support science and research investigations on the orbiting laboratory.

Bandwagon 3 : Dedicated Mid-Inclination Rideshare

- SpaceX at Cape Canaveral
- April 2025
- **Mission:** Dedicated rideshare flight to a mid-inclination orbit with dozens of small microsatellites and nanosatellites for commercial and government customers.

Biomass

- Arianespace at Guiana Space Centre, French Guiana
- April 2025
- **Mission:** Biomass is a European Space Agency mission designed to measure the density of carbon stored in the world’s forests. The spacecraft, built by Airbus Defense and Space, features the first civilian P-band synthetic aperture radar and a 12m-diameter deployable reflector from L3Harris made of over 900 km of gold-coated molybdenum 25µm wire.



SCOT LANEY

MUSEUM CEO

An interesting feature of our Museum are the endless branch points of history our exhibits help to illustrate, the ceaseless parallels of history that go well beyond the specifics of the actual exhibit. How the DC-3 not only revolutionized air travel but also sorted out many of the Department of Commerce rules still in use today. How the C-47 not only delivered troops to the battlefield but also directly influenced the rapid improvement in industrial coatings necessary to preserve and protect cargo that previously could not be swiftly transported by air. Although the coatings were originally developed to protect the foodstuffs the U.S. was moving all over the world in WWII, today those same industrial coatings are used to protect modern aircraft and all manner of manufactured goods from environmental degradation.

I guess once the war made it imperative for the U.S. Can



Corporation to noodle out a way to get a can of soup to Burma rust-free, the sky, literally, became the limit. In addition to metal, commodities like rubber, paper, fabric and others too numerous to list went through a similar osmosis and our exhibits illustrate those changes.

As a point of fact every single aircraft and spacecraft we exhibit possess the same litany of interesting facts that lay just under the surface. Start to peck around them a little and a whole new story reveals itself—the story of us. The story of America.

I guess you could say that we have a Museum of beautiful artifacts that you can see and a Museum of “the rest of the story” just waiting to be found out. Good thing we have so many skilled Docent, Restoration and Collections volunteers that make those stories come alive. ➤

President Taft Presents Aero Club Medals to Wright Brothers, 1909



GARY SOHN

FRIDAY DOCENT

On June 10, 1909, U.S. President William Howard Taft presented Wilbur and Orville Wright with the Aero Club of America gold medals in the East Room of the White House before an assembly of over 1,000 people. In the photograph, President Taft is at the center, with Wilbur Wright to the left, Orville Wright to the right, and the Wright Brothers' sister Katharine to the right of Orville. The other gentlemen in the photo include aviators Alan R. Hawley and James C. McCoy, Herbert Parsons, a New York Congressman, and Charles Jerome Edwards, president of the Aero Club of America.

The gold Aero Club of America medals were designed by Victor D. Brenner, who also designed the U.S. penny, introduced in the same year.

What follows is an excerpt from President Taft's comments of that day:

"I esteem it a great honor and opportunity to present these medals to you as an evidence of what you have done. I am so glad—perhaps at a delayed hour—to show that in America it is not true that 'a prophet is not without honor save in his own country.' It is especially gratifying thus to note a great step in human discovery by paying honor to men who bear it so modestly. You made this discovery by a course that we of America like to feel is distinctly American--by keeping your noses right at the job until you had accomplished what you had determined to do."

"I congratulate you on the result. I congratulate you on the recognition that you have received from all the crowned heads of Europe, and I congratulate you that in receiving it, you maintained the modest and dignified demeanor worthy of American citizenship." ✈

Katharine Wright Haskell: The Unsung Heroine of Flight



BUD VARTY

WEDNESDAY DAY CAPTAIN

When the world speaks of the Wrights, it must include their sister. “Much of our effort has been inspired by her,” said Orville Wright after he and his brother Wilbur achieved the first heavier-than-air, powered flight in 1903.

The fifth and only surviving daughter of Bishop Milton Wright, Katharine Wright was born in 1874, the youngest of seven children. When she was fifteen years old, her mother died of tuberculosis, and she began several decades of managing the Wright household.

When her older brothers, Wilbur and Orville, began to study the possibility of powered flight, Katharine became their bicycle shop manager. She kept the books, did the advertising, ordered supplies, and kept their bicycle business afloat and thriving while her brothers were experimenting with their aircraft at Kitty Hawk, North Carolina. She also maintained correspondence with them throughout their times at Kitty Hawk, ordering supplies they needed and assuring that the hand-crafted parts they required

were made. When Wilbur and Orville became discouraged by their lack of progress in 1901, Katharine lifted their spirits and kept them on track toward their eventual success.

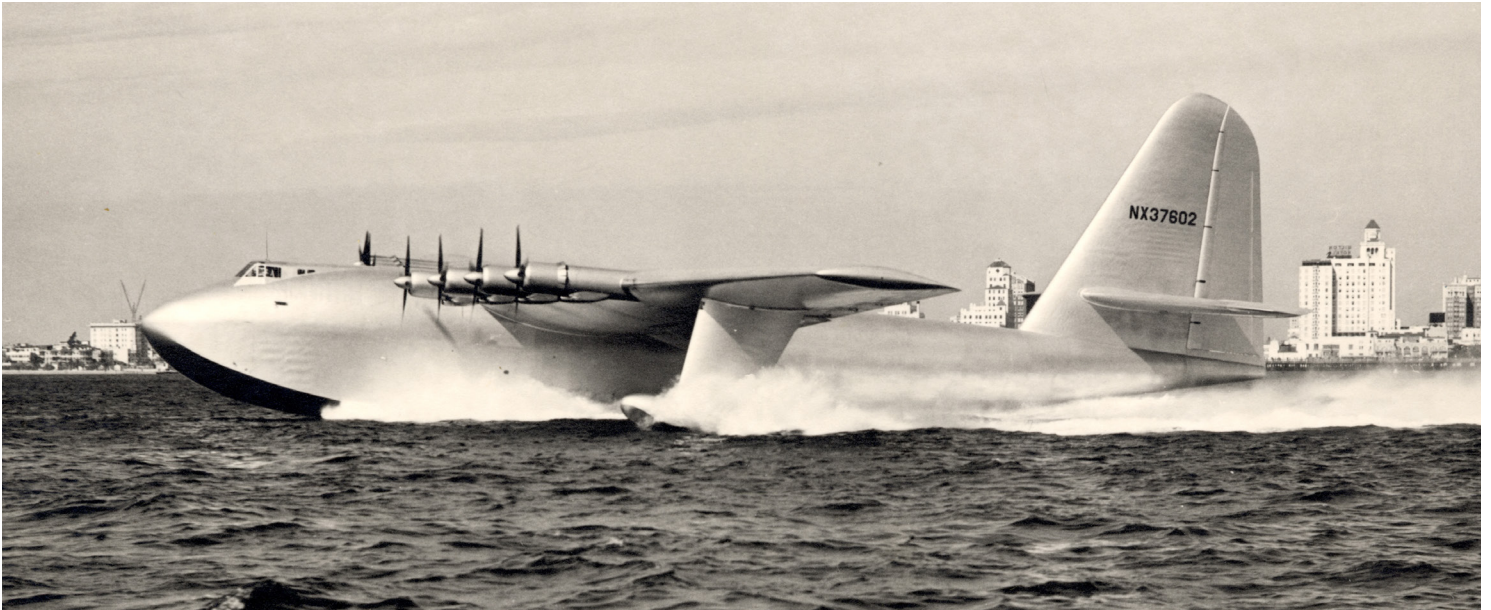
The Wright Brothers didn’t achieve immediate financial success or fame immediately after their first successful flight. Doubters were many. However, the French were interested in seeing their invention. They were invited to visit France and demonstrate their flying machine. While they were open and gregarious in private, Wilbur and Orville were shy, reserved, and reticent in public. Wilbur asked Katharine to join them in Europe, and she was an immediate sensation. While her brothers were withdrawn, she became the “frontwoman” in their quest to sell airplanes to Europe’s royalty and elite. She gave speeches in French, entertained heads of state and kings, and plowed the way for what eventually became a highly successful European venture. When the Wrights left France, Katharine and her brothers were awarded the Legion of Merit. She had become an international celebrity.

Throughout her life, Katharine was an early and active feminist. After graduating in 1898, she became an English and Latin high school teacher. She became vocal about her low salary compared to her male counterparts. She campaigned for women’s right to vote, marching (along with Orville and her father) in support of the 19th Constitutional Amendment. She became only the third female trustee of her alma mater, Oberlin College.



In her late 40s, Katharine married an old college classmate, much to Orville’s chagrin. Her marriage was short, however, as she died of pneumonia in 1929 with Orville at her side. ✈

Why Fly the Goose?



ALLYN VANNOY

WEDNESDAY COLLECTIONS, SUNDAY DOCENT

Did Hughes plan to fly the Spruce Goose on November 2, 1947, or was it spontaneous? Hughes was under enormous pressure from certain parties in the U.S. Senate, which accused him of taking \$18 million from the government for an aircraft that had never flown. He was also seeking approval from the Feds for TWA to operate passenger service to Europe.

The Goose's test flight was not planned for another five months. But conditions were great that day—with no cargo and a minimum amount of fuel on board, the aircraft was 'light', and the wind off the ocean would provide good lift.

The decal on the windscreen in front of the pilot's seat indicates that Hughes was planning to attempt the flight.

On the second taxi run, Hughes noted that the aircraft got up on the step, which indicated that the plane was ready to fly.

But maybe it was also an impulse, a response to the

moment, a strong desire on Hughes' part to will the plane into the air.

He may also have been influenced by the presence of James McNamara of Los Angeles's KLAC radio. In McNamara's audio recording that day, he is heard calling out the aircraft's airspeed, so he has to be standing close by Hughes (looking over his shoulder). McNamara does mention hanging onto his (Hughes') seat. The increasing volume of McNamara's voice and excited tone might have spurred Hughes to push the Goose into flight.



Dave Grant, the plane's flight control system designer while sitting in the co-pilot's seat on the day of the test/flight, wasn't sure if the takeoff was planned or inadvertent.

Was the flight planned or a spontaneous act? Probably a bit of both. ➤

Why We Went to the Moon



BILL KOLB

MONDAY DOCENT

Going to the Moon has been a goal for humanity for various reasons—scientific, technological, cultural, and even philosophical. Specifically, the Mercury, Gemini, and Apollo programs in the 1960s and 1970s were driven by a mix of Cold War competition and the desire to push the boundaries of human achievement. But beyond that, there are deeper motivations that still resonate today.

Scientifically, the Moon offers a unique laboratory. Its lack of atmosphere and geological stability preserve a record of the solar system's history—think ancient rocks and craters that date back billions of years. Studying it up close helps us understand Earth's past and the broader mechanics of planetary formation. There's also the potential for resources like water ice (in shadowed craters), which could be split into hydrogen and oxygen for fuel—key for future space exploration.

Technologically, it's a proving ground. Getting to the Moon, landing safely, and returning to Earth forces us to master precision engineering, propulsion, life support, and more. It's like a steppingstone to Mars or beyond—a smaller gravity well than Earth but still challenging. The Artemis program, for instance, aims to build on this by testing sustainable habitats and new tech.

Culturally, it's about inspiration and unity. The Apollo 11 landing in 1969 was a collective “we did it” moment for humanity. It symbolizes what we can pull off when we

aim big. Even now, private companies like SpaceX are eyeing lunar trips, stirring that same sense of possibility.

Philosophically, some argue it's in our nature to explore. The Moon's right there, taunting us—close enough to reach, far enough to test us. Why not go? It's a way to keep asking what we're capable of.

The bottom line is that we are explorers by nature. What is over the next hill, beyond the ocean? There is a part of us that needs to know. The Moon provides us with a sense of wonder and a definable goal. In the 1960s, we were driven to fulfill the objectives set out by the late President Kennedy. That drive sometimes overwhelmed our better judgment, and three astronauts died in a launch rehearsal of Apollo 1. We took a long pause after that but learned from our mistakes. The Apollo command module was redesigned from the ground up, procedures were rewritten, and we eventually landed at Tranquility Base in July 1969. In doing so, we beat the Soviet Union to the Moon and, four days later, delivered the crew safely back to Earth.

President Kennedy summed up our deepest goals and dreams in his famous speech at Rice University in September 1962:

“We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win.” ↗

The Lunar Module

BILL KOLB

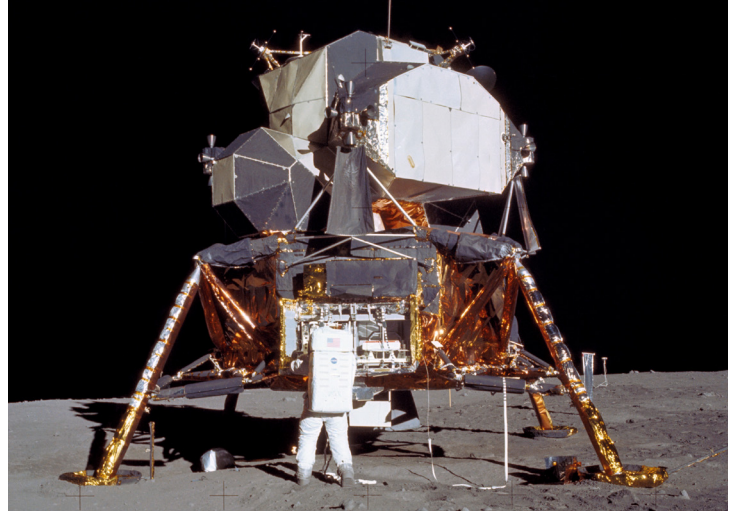
MONDAY DOCENT

The Lunar Module (LM), originally called the Lunar Excursion Module (LEM), is one of human history's most iconic spacecraft. Its story begins in the early 1960s, amid the Cold War space race between the United States and the Soviet Union. In 1961, President John F. Kennedy set an ambitious goal: land humans on the Moon and return them safely to Earth before the decade's end. Achieving this required a vehicle capable of descending to the lunar surface, supporting astronauts during their mission, and launching them back into orbit—a task the Lunar Module was designed to fulfill.

The concept of the Lunar Module emerged from debates over how to reach the Moon. Early plans favored a direct ascent or Earth-orbit rendezvous, but in 1962, NASA adopted the Lunar Orbit Rendezvous (LOR) approach, proposed by engineer John Houbolt. LOR called for a two-part spacecraft: a Command/Service Module (CSM) to orbit the Moon and a separate Lunar Module to land. This decision necessitated a lightweight, specialized craft, and Grumman Aircraft Engineering Corporation won the contract to build it in November 1962.

Designing the LM was a formidable challenge. It had to operate in the vacuum of space and the Moon's weak gravity (one-sixth of Earth's), carry two astronauts, and function without aerodynamic considerations since it would never fly in an atmosphere. Grumman's team, led by Tom Kelly, crafted a spindly, insect-like vehicle with two stages: the descent stage, equipped with a throttleable engine and landing legs, and the ascent stage, housing the crew cabin and a rocket to return to orbit. Weighing about 33,000 pounds (15,000 kg) fully fueled, the LM relied on lightweight materials like aluminum and titanium, with walls so thin they couldn't support the craft's weight in Earth's gravity.

The first uncrewed test flight, Apollo 5, in January 1968 successfully demonstrated the LM's engines in Earth orbit. Still, delays and technical issues—such as engine



instability and weight overruns—pushed crewed testing to Apollo 9 in March 1969. Astronauts James McDivitt and Rusty Schweickart flew the LM (nicknamed “Spider”) in Earth orbit, proving its systems. Apollo 10, in May 1969, took the LM (called “Snoopy”) to lunar orbit, descending within 8.4 nautical miles of the surface as a dress rehearsal for the landing.

The LM's defining moment came on July 20, 1969, with Apollo 11. The “Eagle” module carried Neil Armstrong and Buzz Aldrin to the Moon's Sea of Tranquility. During descent, alarms triggered by an overloaded computer tested the crew's nerves, but Armstrong manually guided Eagle to a safe landing with seconds of fuel to spare. After their historic moonwalk, the ascent stage launched them back to rendezvous with the CSM, piloted by Michael Collins.

Subsequent missions refined the LM's legacy. Apollo 12 pinpointed a landing near the Surveyor 3 probe, while Apollo 13's LM, “Aquarius,” became a lifeboat after an explosion crippled the CSM. Apollos 14 - 17 used upgraded LMs with greater payload capacity, enabling longer stays and lunar rovers. By Apollo 17 in 1972, the LM had facilitated six landings, leaving descent stages on the Moon as enduring relics.

The Lunar Module's history reflects human ingenuity and determination. Though retired after Apollo, its design influenced future spacecraft, cementing its place as the vehicle that first bridged Earth and the lunar frontier. ➤

Early Air Racing

ALLYN VANNOY

WEDNESDAY COLLECTIONS, SUNDAY DOCENT

Air Racing

As Howard Hughes developed and tested his H-1 Racer, he tended to fly it in the Cleveland Air Races. Air races in the 1930s were very popular and allowed aircraft companies to gain notoriety. The races also advanced aviation technology.

Pylon air racing between the wars involved the hottest airplanes of various classes. The planes were relatively new, either built for that year's racing or the previous year's model brought up to date. Before World War II, the unlimited class was composed chiefly of notable built-for-the-purpose racers that were usually produced quickly. The war ended the "Golden Age" of air racing.

The Schneider Cup

The Coupe d'Aviation Maritime Jacques Schneider, also known as the Schneider Trophy, Schneider Prize, or (incorrectly) the Schneider Cup, was a trophy awarded to the winner of a race for seaplanes and flying boats.

It was intended to encourage technical advances in civil aviation but became a contest for pure speed, with laps over a triangular course, initially 170 miles and later extended to 220 miles. The contests were staged as time trials, with aircraft setting off individually at set intervals. They were very popular and attracted over 200,000 spectators.

The race significantly advanced airplane design, particularly in aerodynamics and engine design. Its results were shown in the best fighters of World War II, impacting such aircraft as the Supermarine Spitfire, North American P-51 Mustang, and Italian Macchi C.202 Folgore. The first competition was held on April 16, 1913, at Monaco, consisting of six laps, 190 miles. James Doolittle won the cup in 1925, flying a Curtiss R3C float plane at 232.57 mph.



James H. Doolittle, with the Curtiss R3C-2 Racer

The Pulitzer Trophy

The National Air Races (also known as the Pulitzer Trophy Races) are a series of pylon and cross-country races that took place in the U.S. Aviation technology and the speed and reliability of aircraft and engines grew rapidly during this period; the National Air Races were both a proving ground and showcase for this.

In 1920, publisher Ralph Pulitzer sponsored the Pulitzer Trophy Race and the Pulitzer Speed Trophy for military aircraft at Roosevelt Field, Long Island, New York, to publicize aviation and his newspaper. The races eventually moved to Cleveland, Ohio, in 1929, becoming known as the Cleveland National Air Races. It drew the best flyers.

The races included cross-country races originating in Portland, Oakland, and Los Angeles, with a final destination in Cleveland.

In 1929, a Santa Monica, California to Cleveland race was started for the Women's Air Derby (nicknamed the "Powder Puff Derby"), featuring such well-known female pilots as Amelia Earhart.

The races, known as "The National Championship Air Races", were moved to Reno, Nevada, in 1964. ➤

Lindbergh Goes to War

ALLYN VANNOY

WEDNESDAY COLLECTIONS, SUNDAY DOCENT

While the Museum has a copy of *The Spirit of St. Louis*—the plane that Charles Lindbergh flew when he soloed across the Atlantic in 1927—much of his life is less well known. Few are aware of his service during World War II. Before the war, he had been an isolationist and so was not in the good graces of the Roosevelt Administration—banning him from the Armed Forces.

But in April 1942, determined to help the war effort, he went to work as a technical consultant for Henry Ford at the Willow Run plant near Detroit, which was producing B-24 Liberator bombers.



He also engaged in high-altitude tests of the Republic P-47 Thunderbolt fighter plane. At the Mayo Clinic in Rochester, Minnesota, he put himself through a series of tests of mental and physical reactions at high altitude.

Next, Lindbergh joined United Aircraft Corp. as an engineering

consultant. The company was building F4U Corsairs for the Navy and Marine Corps. While with United Aircraft, he acted as an aeronautical engineer, test pilot, and instructor. He visited naval air stations where pilots were being trained on the Corsair.

In 1944, he was sent to the Pacific under Navy supervision as a technical representative of United Aircraft. His purpose was to study the performance of fighter planes under combat conditions to improve their designs.

In May 1944, while at Green Island, not far from the Japanese stronghold at Rabaul, New Britain, he was

invited to fly with a Marine combat patrol over the Japanese base. Lindbergh and other Marine pilots conducted strafing runs on Japanese facilities during the patrol. Returning to base, Lindbergh was instructed by the commanding officer that he was not to participate in combat operations out of concern that Lindbergh could be shot down and possibly captured. Yet, he went on to fly several strafing and combat missions with the Marines.



Next, he flew P-38 Lightning fighters with the U.S. Army Air Force. On June 27, 1944, Lindbergh flew his first mission with the 475th Fighter Group, a unit of the Fifth Air Force. After a few missions, it was discovered that Lindbergh's fighter retained more fuel upon returning to base than the other aircraft flying the same mission. In answering how he had managed to use less fuel, he explained that he would throttle back the plane's RPMs while increasing manifold pressure and propeller pitch. Concerned about the possible engine wear this might cause, an inspection of the plane's engine revealed no adverse effects. The result was that pilots were able to extend an aircraft's airborne time from seven to nine hours—increasing the range by 600 miles.

On July 28, 1944, Lindbergh was flying on a mission to Amboina, in the Dutch East Indies, when a Japanese fighter plane was encountered. The aircraft approached Lindbergh head-on. The two exchanged fire. But the P-38's four .50-caliber machine guns and 20mm cannon proved too much, sending the Japanese fighter into a long dive that ended in the sea.

In September 1944, Lindbergh returned to the U.S. He had flown fifty combat missions in the Pacific—25 with the Army and 25 with the Marines. He did not reveal his wartime experiences until he published his *Wartime Journals* in 1970. ➤

C-47 Skytrain: The Lady Keeps Telling Stories

BILL VEITH

FACILITIES MANAGER/RESTORATION

Our C-47 continues its journey to being restored to its original appearance, as it was during D-Day missions. Approximately 95% of the add-ons introduced during the conversion to commercial service as a DC-3 have been removed. The engines are also nearly done and are already on display out front. Corrosion mitigation, which is significant after 40 years of outside static display, structural repairs, fuselage patching, and cleaning are now in progress, with the goal of being ready in June for a trip outside for priming and painting. Then, it returns inside to a new location, where we will begin the process of putting the pieces back together.

That's the story we see every day. However, through this process, some very interesting secrets have been revealed and made more visible. Here are two of them:

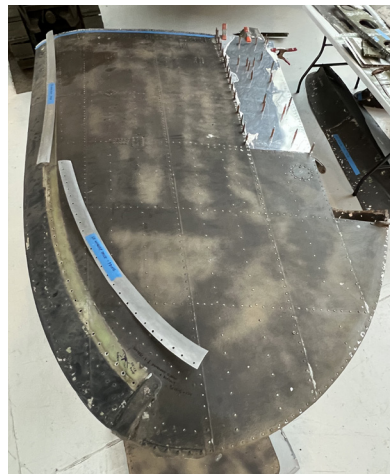
While trying to gauge the challenges of paint removal, the team began chemically stripping part of the engine cowling. Under several layers of paint, we discovered a decal that has not been seen since it left commercial service more than 40 years ago. The decal reads "Pratt &



40+ year old Pratt & Whitney "Dependable Engines" decal (upside down)

Whitney / Dependable Engines." The decal, though not original to the C-47, was likely added when the plane entered commercial service.

You may have noticed that the left wing tip is off the plane. Life outside has taken its toll. The wing tip, designed to come off, is attached with steel screws and aluminum nut plates to the main wing. Prior damage to the wing tip may have allowed moisture in and resulted



C-47 wing tip restoration progress

in significant rusting of the screws and disintegration of a large part of the lower nut plate. As part of the corrosion investigation and mitigation, we decided to remove the tip. As a result, the wing tip is now on display in front of the left wing. What the team on ladders could see easily is now revealed for everyone. Several small random patches, each about the size of a small business card, are easily seen. With no actual confirmation, one can only imagine the cause to be shrapnel or bullets. It serves as an ongoing lesson.

It is a privilege to be restoring this historic warbird. To all those who served and crewed on this C-47, we honor you. ✈



On the Horizon

LEE NGO

EDUCATION DIRECTOR

Hello, Evergreen Aviation & Space Museum Community!

Very excited to contribute to my first of hopefully many more FlightPlans! We are heading into a very exciting time with Education. Since the start of my tenure in July 2024, I've been exploring ways in which the Museum's potential remains untapped, and I'm proud to say that we've found a rhythm to our activities that aims to bring a new life and energy to the space.

Generally, the Museum Education Department offers four types of programs to the community:

- **Field Trips:** self-guided, docent-led, or educator-led with a digital theme
- **Day Camps:** full-day experiences during days off in school calendars
- **Week Camps:** week-long aerospace experiences for grades K-8
- **Museum in a Box:** bringing our Education experiences to the classroom, conference, or event

We've already served hundreds in the community, and we have no signs of slowing down.

Recent Activities:

On March 14, we hosted a Day Camp themed on the number pi. This was our first Day Camp that applied mathematical concepts to understand orbits, planets, and more!

For March 15, we supported the Carlton Observatory as they hosted Science Fest in the East Pavilion. That Saturday featured exhibits and activities from education partners from all over the area.

We have just wrapped on our Spring Camps, where we ran three programs overall:

- **Up in the Air,** an exploration of the fundamentals of aviation for grades K-2



Educator-led field trip

- **Destination Mars,** applying real science to humanity's next frontier for grades 3-5
- **BreakThrough,** a special field trip and day camp for Self-Enhancement, Inc.

We're looking forward to Summer Camps, which feature six distinct courses that teach subjects from grades K-8 (see adjacent page for details). We already have signups for all our course offerings, and we'd love your help to get the word out.

Super Early Bird Registration Ends on April 30.

Sign up here: bit.ly/EvergreenSummerCamps2025

Last but certainly not least, I want to give a huge shout-out to Education Coordinator Stephanie Upmeyer and Community Program Specialist Kim Cooper-Vernon. Over the last several months, I've asked them to do more than they've ever done for this Museum, and they stepped up to the challenge. Their contributions have vaulted Education at our Museum to a new standard for excellence in our community. 🚀

2025 Museum Summer Camps

LEE NGO

EDUCATION DIRECTOR

Up in the Air (K-2): Into the sky! Junior aviators entering K-2nd grades will learn about the history and science of aviation, from biomimicry to modern rocketry. Campers will discover and test out the fundamentals of flight, all while exploring unique exhibits such as the Spruce Goose and the SR-71. Perfect for anyone who's ever asked, "How do things fly?"

Star Sailors (K-2): Let's look to the stars! Young astronomers incoming grades K-2 will explore the wonders of the universe, from our solar system to black holes and nebulae. This camp is designed as an introduction to the joy and discovery of astronomy. Campers will conduct hands-on experiments, learn how to use astronomy tools, explore light and gravity, and so much more!

Destination Mars (3-5): What does it really take for a person to travel to Mars? Let's find out! Campers entering 3rd-5th grades will take a scientific approach to space exploration, including propulsion, space faring, and planetary colonization.

Aero Engineers (3-5): Jump into the pilot's seat! Campers going into grades 3-5 will become aeronauts and engineers to learn more about the science and mechanics of flight, as well as the steps pilots must take—such as preflight checks, flight planning, load balancing, and more—to be able to fly. Using the engineering design process, campers will experiment with and build various components of aircraft design. By the end of the week, your child will be ready to take to the sky!

Orbital Odyssey (6-8): Which worlds would be the best possibility for supporting human habitation? Incoming 6th-8th graders will dive deep into space exploration with math-based challenges and hands-on experiments, including a final showcase for the best option for humanity.

Cosmic Coders (6-8): Calling all future computer scientists! Students entering grades 6-8 will embark on a week of coding and working with basic robotics to solve space-themed challenges. This course is for complete beginners who are looking for a fun, project-driven approach, ending with a final presentation on their creative work. Challenges include storytelling in code, building interactivity, and syncing software to hardware—all in the name of space exploration. ➔

More information and photos:

bit.ly/EvergreenSummerCamps2025

Super Early Bird Registration Ends on April 30.

Sign up here: bit.ly/EvergreenSummerCamps2025



Happy Campers!

Augmented Reality

BILL KOLB

MONDAY DOCENT

We've all heard of virtual reality, where you are blocked off from reality and interact in a fantasy world. With our Augmented Reality experience, you remain in the real world and have video and pictures added to reality...an augmentation, if you will.

To use this system, visitors and docents must first download the Trace Viewer app on their phones, iPads, or tablets. You can access the app by scanning the QR code on the Augmented Reality welcome posters in each lobby.



Red AR sign frame

Armed with the Trace app, walk around the Museum looking for red sign frames next to exhibits. (A list of current and future exhibits supported by Trace can be found at the bottom of this article.) Once you are at an exhibit, look for it in the exhibit list within the app. Click on that exhibit and then point your phone at the sign. A blue circle appears around the sign that tells

you the software knows you are in front of that unique exhibit. Soon, an avatar of a docent will appear behind the sign. This can sometimes take up to 20-30 seconds, depending on the speed of your cell carrier. Once they appear tap on their face and let him or her tell you a story about that artifact.

Sometimes, several avatars will be displayed for a particular exhibit, each with more details on specific areas. In all cases, the avatar behind the sign will provide an overall introduction to the exhibit.

We recommend using earbuds, like Apple AirPods for the iPhone, to better hear the avatars in our open museum environment.

Please enjoy our new technology.

CURRENT EXHIBITS

PAVILION	
West	East
Welcome	Welcome
C-47	F-117A
Goose	SR-71
PBY	Lunar Module
DC-3	Titan II

PHASE II EXHIBITS

PAVILION	
West	East
UH-1H Huey	Titan II Launch Rm
Wright Bros	X-15
Merlin Engine	V-1 & V-2
Restoration	Flying to the Moon

Future exhibits are expected to be completed by the end of summer. We are also expanding several existing exhibits, including the DC-3, C-47, Goose, SR-71, and Lunar Module. ➤

MUSEUM MISSION

Evergreen Aviation & Space Museum is a force of curiosity and courage for kids of all ages to gain the confidence to take flight.



FLIGHTPLAN NEWSLETTER CONTRIBUTORS

EDITOR: BILL KOLB BILL@KOLBVINEYARDS.COM
FEATURE WRITERS: BILL KOLB, SCOT LANEY, LEE NGO, DAN OVEN,
GARY SOHN, ALLYN VANNOY, BUD VARTY, BILL VEITH
LAYOUT: ROB ZEH

.....

EMAIL SUBMISSIONS TO: FLIGHTPLAN@EVERGREENMUSEUM.ORG