

FlightPlan

A VOLUNTEER NEWSLETTER BY VOLUNTEERS



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EVERGREEN
AVIATION & SPACE
MUSEUM



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AUGUST 2025

*We are five months into the new format of the Flight Plan. We would be very interested in your observations on format & content. Are we hitting the mark? Are there ways to improve the layout? What topics would you like to see explored in future editions? Please send comments to: flightplan@evergreenmuseum.org. Thank you! **Bill Kolb, Editor: EASM FlightPlan Newsletter***

THEMES

We are assigning themes to each month of the FlightPlan. These are not exclusive of other topics, but perhaps they may motivate you to make a contribution.

AUGUSTRESTORATION
SEPTEMBER.....DRONES
OCTOBER.....COLLECTIONS

GUIDELINES FOR SUBMITTING AN ARTICLE TO THE FLIGHTPLAN NEWSLETTER

1. The FlightPlan (FP) is published on the 1st of each month
2. Stories for the next issue can be filed up to the 10th of the prior month
3. Articles should be associated with an artifact at the Museum
4. Sources for specific information in the article should be provided
5. Stories should be approximately 500 words long
6. If appropriate, include one or two photos for publication with the article
7. Include name, day, and title at the bottom of each article submitted
8. Email articles to: flightplan@evergreenmuseum.org
9. Feedback is encouraged; submit to flightplan@evergreenmuseum.org

CAPTAINS CORNER

DAN OVEN

SUNDAY DAY CAPTAIN

The July 2nd 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 the accuracy of facts presented during Spruce Goose tours be checked. Some errors have been recently reported.
- Asked that docents follow the chain of command with suggestions, questions, or complaints.
- Is working on a project highlighting nuclear-powered aircraft.
- Volunteers should cordially and professionally engage with guests and other individuals in the Museum. Often these individuals are working on special projects.

Terry Howell – Chief Operating Officer

- The museum will no longer provide docent shirts. Docents will provide their own shirts. They must be a solid color, have a collar and can be either long or short-sleeved. Polo shirts meeting the criteria are acceptable.
- Participation in the Oregon Air Show will be scaled back this year. VIP and museum member areas will be provided. More information will be available at August's BOC meeting.
- The Education Department will have a busy schedule this summer. There will be six summer camps this year. Refer to the EASM Radar @ easmcrew.com.

Scott Malandrone – Exhibits Manager

- The F-14 Tomcat will be moved to the East Pavilion for display.
- The F-105 was relocated in front of the West Pavilion, placed next to the F-106.
- Evidence of people was recently found inside the P2V Neptune, (behind the 747) having gained access via a sliding door in the nose wheel landing gear area. The sliding door area has been sealed and locked.

Old Business:

- Dan Oven presented a Day Captain Training Outline to orient and train new Day Captains. This document will be reviewed and suggestions submitted to Dan over the next month.
- Standards and procedures for the annual John Rasmussen Award were finalized and approved.

New Business:

- A FlightPlan newsletter email distribution list, showing just email addresses, was passed out. Day Captains and Leads were asked to review it and to put the names of their crew members next to the email address if not already identified.
- Barry Brown passed out a new, shortened version of the Artifact Change Form. This form replaces the Collaborative Curation form. The form was approved, and copies will be available via the RADAR online system.

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CAPTAINS CORNER

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Other Business:

- Jerry Sauter submitted a suggested log sheet for tracking of docent radio assignments.
- Recognition of training completion certificates will now be given to Collections and Restoration volunteers. Department Leads will inform the Training Officer.

The meeting was adjourned at 11:17am, followed by a Day Captains Only special session. ➤

WELCOME NEW VOLUNTEERS!

Let us welcome and congratulate the following volunteer who has completed their 50 hours of training:

JULY

EVA WENDTWednesday Docent, West Pavilion



SCOT LANEY

MUSEUM CEO

At the Evergreen Aviation & Space Museum quarterly Board of Directors meeting this week I gave the Board a sort of State of the Museum presentation as this upcoming week is my one year anniversary in the CEO position.

I spoke about the various initiatives that we have established, all of which are part of the over-all approach to creating a higher standard for all things that we do. Frankly I don't spend much time thinking about the past around here. We have a museum that is not fitted with a rearview mirror, only a giant windshield that lets us peer into the future, not the past, as we drive toward it.

Central to those efforts are looking individually at the three pillars of our Museum: Artifacts, Collections and Restoration. These three things make up what we are and what our guests see when they visit.

The artifacts come to us, Collections curates them and Restoration prepares them for exhibit when needed.

That's the flow and we are organized around that.

The way we do all that is our secret sauce—or at least is becoming so. We are simultaneously creating a higher standard in all three areas, exhibits and restoration being the most public but Collections underpinning the whole effort.

My focus will soon turn to Collections. Bud Varty and the Collections team have prepared a good list of things they will need going forward to tackle the huge amount of items we have back there.

I believe the progress in Restoration is apparent to anyone that thinks back a year or so. Step one was cleaning and organizing the area and Bill Veith stepped in to help with that effort along with many of the Restoration volunteers. Step two was selecting and staging the specific aircraft for restoration. Obviously the C-47 is the most public, but also the P-Model Huey receives a lot of attention from our guests. The new tour will add some additional spice to the whole shebang.



EASM is one of the few museums in the world that does restoration on the museum floor. I firmly believe this is very important and unique—a strength we have that others don't—so naturally we will exploit that.

Do we need a separate restoration facility? I think so, but we will always have a public project going on the floor for our guests to see if and when we get that separate facility. In the meantime we will use what we have today to get what we want tomorrow—a business strategy that in my opinion almost always works. Do the restoration projects sometimes make noise? Yep. But I see our guests walk over to see for themselves what's going on when they hear it. That being said I remind Leroy occasionally that we need to keep the noise down during the 11:00 am and 2:00 pm tours and he has been reminding the volunteers to do that.

I want to take the chance to say that I am very proud of the team here at EASM. The staff and volunteers that have really adopted the mindset that we are a world class museum and we're going to act like it in every respect. We owe it to our guests and visitors and, for those of you that have been around way longer than me, we owe it to ourselves. We're all a little bit like test pilots here—we're going to strap ourselves into this bird and see how high and how fast we can push her. Along the way let's rumple the edges of a few envelopes too. Why not? ✈

An Eyewitness Account of the Launch of Apollo 11 - Wednesday, July 16, 1969

DONN W. ANDERSON

TUESDAY DOCENT

The experience of witnessing Apollo 11 lifting off for the moon is still as vivid in my memory as what happened in my life yesterday.

My father thought this launch momentous enough that he had invited me to join him and three of my siblings at the Cape in Florida to be present for this once-in-a-lifetime event. Just a few days shy of my 25th birthday, and working at Los Angeles International Airport, I had flown to Florida utilizing my airline employee pass privileges.

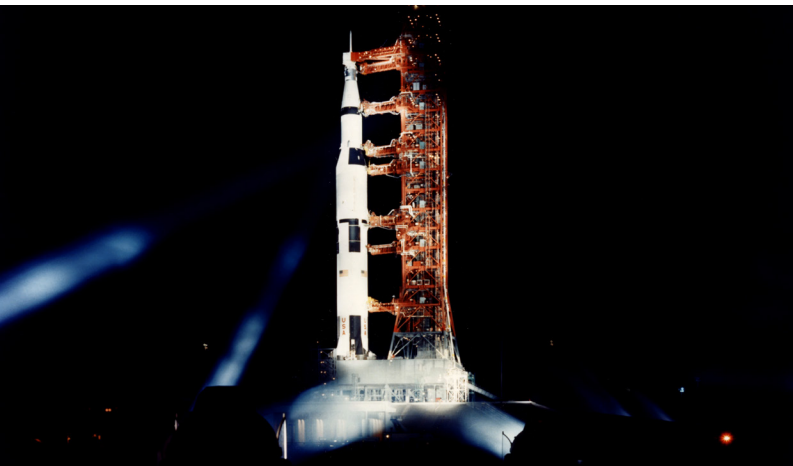
The five of us arrived in Titusville in the dark of night on July 16th, 1969. Even then, the humidity was palpable. The first view of the mighty Saturn V on the launch pad, twelve miles away, sent a shivery thrill through my body. This rocket, taller than a 36-story building, looked about a quarter of an inch high. However, it was unmistakable, as it was illuminated on all sides by powerful spotlights. A quick glance through binoculars brought it into sharp focus: the stark blacks and crisp whites contrasting from the bottom of the booster to the top, the venting of liquid oxygen clearly visible. There, the first rocket to send men intending to land on the moon actually WAS! I was thrilled.

We waited faithfully for the sun to come up. As the sky began to lighten, the gray haze of South Florida came into view. The heat and humidity of the Florida morning, along with the relentless rays of the sun, took their toll. It was a lot harder to see the rocket clearly with the waves of heat coming off the ground and the spotlights long ago turned off.



The countdown continued toward the launch of the first-ever attempt to land men on the moon. As the clock descended, my heart rate ascended. Finally, the moment of truth arrived 10-9-8-7-6-5-4-3-2-1! Just past 9:30 AM, absolutely gigantic plumes of smoke and steam shot out to the left and right of the Saturn V stack. Soundlessly, the massive rocket inched upward, barely seeming to move from my perspective 12 miles away. Its incredible thrust was just enough to counteract the massive weight of the rocket itself. It seemed like a full minute before it cleared the launch tower, but time appears to slow down in moments of heightened excitement. The flame plume from the five F1 engines was even longer than the rocket itself! Because we were twelve miles away, seconds ticked by before any sound reached our viewing point. But when it did, it was impressive, almost frightening. The pressure wave was

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An Eyewitness Account of the Launch of Apollo 11 - Wednesday, July 16, 1969

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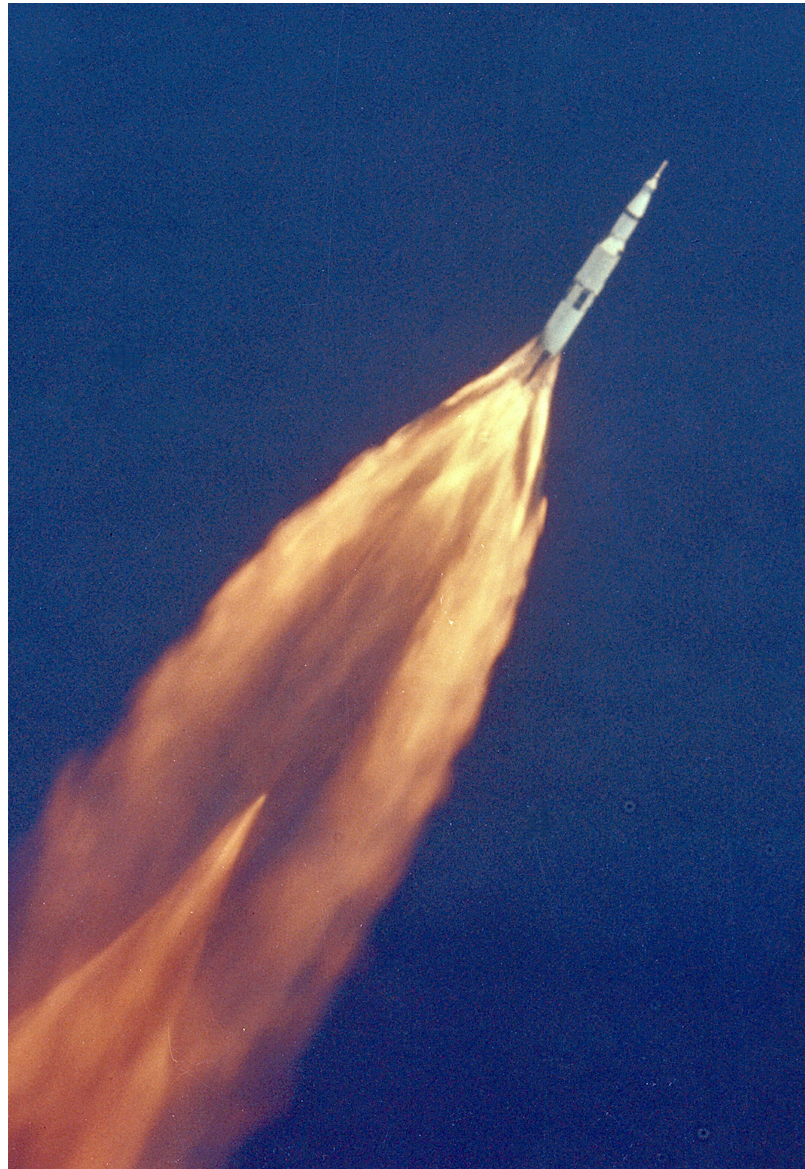


so massive, so strong, so powerful, it literally pushed against my chest. I had to lean forward onto my toes to counteract the force of that sound pounding against my body!

Burning off fuel at a phenomenal rate, the rocket soared upward into the bright, blue sky. Shedding weight, it gained speed. Up and out of sight it went as the sound continued to assault my ears. All it left behind were clouds from ignition and a pillar from the ascent that looked like a sculpture. I was thrilled, ecstatic, giddy, happy, and emotionally overwhelmed by the whole

thing. Having no idea what to expect, the actual experience exceeded any expectations I could possibly have had!

Being an eyewitness at the launch of Apollo 11 remains one of the greatest experiences of my entire life. I will never forget that incredible day. ✈



A Conversation with Clive Nicholson

BURT HOTCHKISS, TRANSCRIBED BY **ALLYN VANNOY**

SATURDAY/SUNDAY DOCENT

SUNDAY DOCENT

Clive Nicholson, one of the lead mechanics on the Spruce Goose disassembly, visited EASM on June 22nd, and spoke with Burt Hotchkiss, Saturday/Sunday Docent. The following is part of their conversation.



Clive:

The Evergreen personnel took the engines off, and we handled the rest—about six or seven weeks to finish, since Disney had threatened to scrap the airplane. The first thing we did, over the course of about a month, was pour in 3,000 tons of dirt and place 2-inch steel plates on top so we could run the cherry pickers. Then we started taking it apart.

Now (for) the wing box, every single attach bolt was taken out; (then allowed) about two thousandths of an inch reamed holes, and (then) the bolts were put back in so that when we wanted to separate the wings, they'd separate okay, with no hang-ups.

With the tail, during the flight, was shaking itself apart, so, when you look at the 'joint', the angle 'joint' at the tail, the empanadas, originally the bolts went at a right angle to the joint. Mr. Hughes insisted it be beefed up, so they put in what we called adjunct (adjustable) bolts. These were inch-and-a-half or 2-inch bolts, 12 inches long. It took my mates and me took 2-½ weeks to get them out. We were allowed to cut steel, but not wood. The workmanship was incredible--most of us said we'd have flown on that (the Goose) up here (to McMinnville) from Long Beach.

So, that was the back end. The engine control system was pneumatic, and Mr. Hughes wanted it replaced when it was returned to the hangar after the flight.

Did he intend to fly it on November 2, 1947? According

to Mr. Grant, who I spoke with for an hour, he said 'yes'. Mr. Grant was sitting in the right-hand seat as the engineer; he was not a pilot, just an engineer.

In six weeks, we managed to take it apart. We used every drill bit in Los Angeles, within a 15-mile radius of Long Beach. By now, we hadn't seen anyone from Evergreen.

The back end was the most difficult. On each wing, we had two railroad tracks with four 15-ton jacks to roll the wings out. I was one of the ones who took the pontoons off, and yes, we got one of the beach balls to have a sniff of 1947 air and decided it smelled as bad as 1992 air. [Note: Documentation in the EASM Archives places the date of the colored beach balls as 1952, documentation Clive would not have had access to.]



While taking it apart, somebody stole the fedora (from the manikin of Hughes). This was unbelievable. They called in the FBI, and the person was caught, apprehended, and I believe he did jail time. But I don't know what happened to the hat.

Once we got it apart, we had to cover it in cling film (plastic wrap). We used 600,000 square feet of cling film to seal the airplane. We were lifting it using cherry pickers, the most dangerous thing, and then heat shrinking

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A Conversation with Clive Nicholson

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it, because it was going to go up with Booz Allen, the people who were going to bring it up the coast.

So we did that, and then Mr. Delford Smith decided to come and examine his purchase. He was with his PR assistant; I can't remember her name, but she was a wonderful lady. She told us that Mr. Smith could call the President of the United States any time, day or night, and he'd listen. I took them both up in a cherry picker to survey his purchase, and they discussed buying the Spruce Goose as casually as you and I would talk about buying a six-pack of beer. She arranged a party for us, and we were all given Duramold pieces mounted on a plaque with our names to say thank you.

Then we came to put it on the boat. The fuselage, on the actual keel it's standing on (today), and the wings. We had some three-foot I-beams holding this altogether to ship it.

On the morning it was going on the barge, one of the Evergreen bosses comes up to me and said, "How much does this weigh?" I ask, "Why?" He replied, "Well, anything over 392,000 pounds, and we have to pay a penalty." Being curious, I ask, "What kind of penalty?" He told me, "A dollar a pound," so I asked, "How much does it weigh?" I say, "512,000 pounds. So, what do you want to do?" He said, "Just don't say anything."

We had 12-inch diameter ropes holding that barge in place for shipping, and I told my guys as they were rolling it (the Goose) onto the barge, "Move away, mate,

'cause if this snaps it's going to kill hundreds of people." Luckily, it all went on, and when they got the fuselage on, it leveled out and it was okay.

I was lucky enough that John Bosecker, the chief stress engineer on the Spruce Goose during (its original) assembly, was a lovely old man who helped us immensely when we couldn't figure out how to take something apart. George Crisger, who was an advisor to Mr. Hughes for many years and a brilliant guy, helped us a great deal. Rod Ares, who came from McDonnell Douglas, led many of the disassembly efforts without McDonnell Douglas' knowledge.

Mr. David Grant, who was sitting in the right-hand seat during the flight, was an incredibly nice guy. He answered any questions, and what he mentioned was that there were 32 people on board. I found it fascinating that there was a guy sitting behind each engine with a fire extinguisher.



And lastly, there was Stanstrom Armstrong, who was the caretaker of this (Spruce Goose) since 1947. And last time I saw him, he was sailing out of Long Beach and came up here with it. We were up and through that hatch in the back of the airplane one day waiting for the riggers to attach something, and Stan was with us, and I was sitting, and he looked to me and said, "Clive, where you're sitting, Marilyn Monroe. All I'm going to say Clive, is Mr. Hughes liked to bring his lady friends down to the Spruce Goose." ✈

The Bell UH-1P Huey Helicopter Gunship



WAYNE MUTZA

AUTHOR, "GREEN HORNETS"

The historical significance of the Bell UH-1P Gunship has long been lost in the shadows of the vast number of Huey helicopters produced since mid-1959. When the US Air Force ordered the UH-1F model in 1963, it was then that the Air Force Huey and all other models would become worlds apart. To begin with, the UH-1F model, designed and built specifically for the USAF, while similar in profile and configuration to all other models, was "a horse of a different color." It featured an unusual engine arrangement, nestled into a specially designed airframe, to accommodate the USAF's overstock of powerful turbine engines used to power Sikorsky's H-3 helicopter. The F model's tail boom and main rotor were lengthened over other Bell model short fuselage model 204 Hueys. The Air Force Huey

had taken on an identity all its own. Adding to its rarity was a production run of less than 120 aircraft, which the air force intended for missile site support, plus search and rescue, security, and staff transport.

After serving in an Air Commando squadron in Thailand in the early stages of the war in Southeast Asia, the UH-1Fs were used to form the 20th Special Operations Squadron (SOS), named the "Green Hornets." History was about to be made. The Air Commando Hueys, along with several sent from the US in 1967, brought the Green Hornets' inventory to 20 UH-1F Hueys, all of which were based at Nha Trang, Vietnam. Soon, the Green Hornets were assigned as the exclusive air arm to support the highly classified Special Operations Group (SOG), whose small, highly experienced, and dedicated teams conducted extremely dangerous cross-border missions.

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The Bell UH-1P Huey Helicopter Gunship

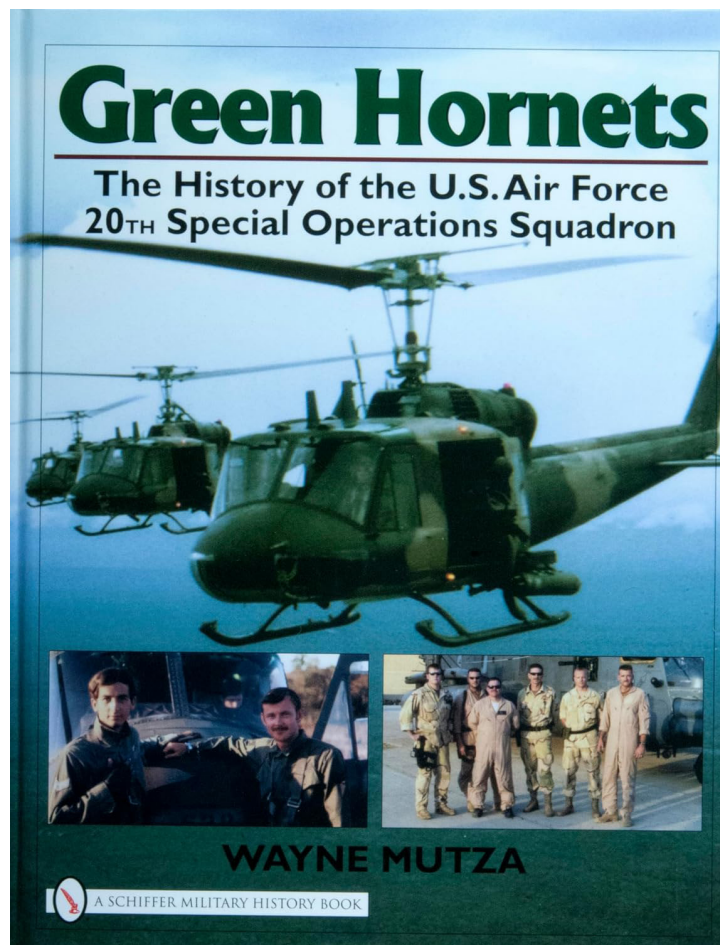
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Given the high risk of the SOG support mission, which incurred tremendous losses, there was no question that the Green Hornets UH-1Fs required more defensive and offensive firepower for heavy armed support of SOG teams. Although Green Hornet crewmen were well-armed and manned door-mounted machine guns, the answer lay in the UH-1P Gunship. Mounted to the P model's hardpoints were 2.75-inch rocket pods with crew-served pintle-mounted 7.62mm miniguns. Extracting SOG teams was a do-or-die affair, totally reliant on the skill, dedication, and heroism of Green Hornet combat aircrews. Many post-mission reports were written in blood. Witness the incredible mission flown by Green Hornet pilot James Fleming and crew who saved a SOG team under heavy fire. Such missions were commonplace; however, this special one earned Fleming the Medal of Honor. There is no better tribute to the UH-1P Gunship.

The UH-1P, having operated in a small window, adds to its rare status as having equipped the only combat helicopter squadron in the US Air Force. SOG Commander Colonel Jack Singlaub praised the UH-1P, citing the experience of Green Hornet pilots, who did not fit the 21-year-old profile of Army Huey pilots. Nor was it lost on the SOG soldiers that the UH-1F and P-model Hueys had a more powerful engine, which meant greater payloads and faster escapes deep in enemy territory.

To be in possession of one of these rare Huey gunship veterans is a great opportunity to preserve the lasting legacy of the Green Hornets and the SOG soldiers they supported.

Wayne Mutza served first as a US Army Airborne Infantryman, and then as a helicopter crew chief during the Vietnam War. He has authored 33 books, many of which cover aviation-related subjects. His book on the Green Hornets is cited as follows:



Green Hornets: The History of the U.S. Air Force 20th Special Operations Squadron

Author: Wayne Mutza

ISBN: 978-0764327797

Publisher: Schiffer Military History

Date: August 30, 2007

The Rare Skylancer: A Supersonic Legacy at Evergreen Museum



EVA WENDT

WEDNESDAY DOCENT, WEST PAVILION

Tucked away behind the Restoration area at the Evergreen Aviation & Space Museum is one of the rarest aircraft ever built, the Douglas F5D Skylancer. With only four ever produced, this sleek supersonic jet holds a fascinating legacy in both military and aerospace research history.

Originally conceived as the F4D-2N, an all-weather fighter-interceptor for the U.S. Navy, the Skylancer was a development of the F4D Skyray. It was meant to run on the newly designed Pratt & Whitney J57 engine. However, the design modifications became so extensive, including upgrades such as a longer fuselage, thinner and more aerodynamically refined wings, reinforced skinning, and drag-reducing fuselage shaping, that it warranted its own designation: F5D Skylancer.

Our aircraft, Bureau Number 139208 (also known as NASA 212 and later NASA 708), had its maiden test flight for the Navy on April 21, 1956. It immediately demonstrated impressive handling and supersonic performance. Despite its potential, the Navy dropped the aircraft after only four were built. The decision was influenced by the arrival of the similarly capable F8U Crusader, and possibly by internal politics, as Douglas Aircraft already had substantial Navy contracts.



The four aircraft continued to fly in various military test programs. Two were scrapped in 1961, while the other two, including ours, found new purpose with NASA.

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The Rare Skylancer: A Supersonic Legacy at Evergreen Museum

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The Skylancer's aerodynamic qualities and lift-to-drag ratio made it a valuable research asset during the Dyna-Soar program (1957–1963), a precursor to modern spaceplane concepts. Astronaut Neil Armstrong, acting as a pilot-consultant, used the Skylancer to develop a launch-abort maneuver for the X-20 Dyna-Soar, a critical safety protocol in the event of pad emergencies. Our Museum guests are going to be thrilled to see up close an aircraft, as it was piloted by the first man to set foot on the moon!

Work wasn't finished for the two Skylancers. The second Skylancer, Bureau Number 142350 (NASA 213, later NASA 802), was used as a chase plane for the Lifting Bodies Program after the cancellation of the Dyna-Soar program. This program focused on testing how a vehicle's shape, rather than its wings, could generate lift, which provided valuable data for the



Our bird found its new home at Ames Research Center in Mt View, CA. It was modified for experimental wing research. Engineers modified the wing to test the Ogee delta shape, a design similar to those proposed for future supersonic transports (SSTs). These changes aimed to improve landing performance by reducing speeds and enhancing lift through better ground effect behavior. Insights gained from these tests even contributed to the eventual development of the Concorde's wing.

Evergreen's Skylancer is now undergoing restoration! Fabricating and replacing missing leading-edge slats, removing and repairing corrosion, and repairing the nose are some of the tasks our restoration crew is currently working on. When finished, she is sure to be one of our Museum's true shining stars!

Though it never saw combat or mass production, the F5D Skylancer remains a crucial link in the chain of aerospace innovation. Its unique blend of military ambition, cutting-edge aerodynamics, and contributions to space and supersonic transport research earns it a distinguished place in aviation history and a rightful home at Evergreen. ✈️



development of the Space Shuttle program. This aircraft was retired in 1970 and is currently on display at the Neil A. Armstrong Air and Space Museum in Wapakoneta, Ohio.

Restoration of EASM's Rare Bell Huey UH-1P – Update



SCOTT MALANDRONE

EXHIBITS MANAGER / UH-1P RESTORATION CREW CHIEF

Restoration work is underway on EASM's 1965 Bell UH-1P Huey gunship—a rare and historic Vietnam War veteran—since its arrival via flatbed in February 2025. The team is currently focused on removing decades-old military paint from the airframe. Due to the instability and potential chemical incompatibility of these legacy coatings, the aircraft is being stripped down to bare aluminum before applying modern primers and paints.

From a restoration standpoint, acquiring this particular Huey has been a fortunate find. While surface preparation is labor-intensive, Huey 65-7948 arrived largely intact—remarkably rare for an aircraft retired from active service, especially one grounded since its final assignment at Luke AFB in 1987. Unlike many other surplus Hueys that have been cannibalized for parts, this airframe was delivered with a nearly complete cockpit panel, both main rotor blades, a rotor

mast and hub assembly, two tail rotor blades and gearbox, and both horizontal stabilizers. With UH-1 204-series parts becoming increasingly rare and costly, having a full complement of original components enables our team to focus on restoration rather than continually sourcing parts. This challenge often delays similar projects for years.

This helicopter was generously donated by the son of a former Army helicopter crew chief from Albany, Oregon, who passed away at age 92. The gift was made in tribute to his father's service and legacy.

The restoration effort has been divided into ten major work scopes:

1. Strip all exterior paint down to bare aluminum or fiberglass.
2. Repair corrosion using the UH-1F Air Force Structural Repair Manual.
3. Wash and degrease the airframe.

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Restoration of EASM's Rare Bell Huey UH-1P – Update

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4. Apply acid-etch primer to bare metal.
5. Prime exterior and selected interior areas (cockpit, cabin).
6. Repaint in the original 4-tone Southeast Asia (SEA) USAF camouflage, guided by historical photos and Air Force Technical Orders.
7. Reinstall main and tail rotor systems.
8. Preserve and reinstall original instrumentation, radios, controls, and seats.
9. Polish and restore all windows and cargo doors.
10. Final detail, stenciling, and application of 20th SOS "Green Hornet" markings.

In the future, we plan to fabricate a replica XM-93 gun and rocket pod system using aluminum and 3D-printed components to complete the gunship's appearance.



As the UH-1P restoration Crew Chief, my goal is to do this restoration right—not just for the sake of accuracy, but out of respect for those who served with and maintained this aircraft. This helicopter represents the hands and hearts of airmen who flew dangerous missions, rescued downed crews, and kept these birds flying under the most challenging conditions.

Why do we invest the time and care to restore it properly? Because “good enough” isn’t. We owe it to the



veterans of the 20th Special Operations Squadron and every maintainer, pilot, and crew member who ever trusted their life to this Huey. This restoration is a tribute to them—and honoring their service is the least we can do. ➤



Fabric Restoration

BOB NALL, INTERVIEWED BY **BILL KOLB**

TUESDAY RESTORATION VOLUNTEER MONDAY DOCENT, EAST PAVILION

Masters of Aviation Restoration

Among the Museum's many treasures is the work of Restoration's dedicated group of volunteers, who specialize in the intricate art of restoring aircraft fabric surfaces. Their efforts breathe new life into historic planes, preserving the legacy of aviation for future generations. This article highlights their remarkable contributions and the challenges they face in their restoration projects.



The Piasecki Helicopter: A Monumental Restoration

The fabric specialist's first significant project was the restoration of a Piasecki HRP-1 Rescuer helicopter, a task that tested their skills and ingenuity. Retrieved from a dump in the San Diego area, the aircraft arrived at the Museum on a flatbed trailer, a mere shadow of its former self. The fabric body was gone, the plexiglass

window panels were shattered, and the hydraulic and fuel lines were beyond repair. The engine compartment, which was made of aluminum and had only one salvageable panel, left the team with a daunting challenge.

The restoration process took six years and began with a detailed evaluation to identify which parts could be salvaged and which had to be recreated from scratch. The team managed to save some plexiglass because the gaskets were intact. Still, most parts, including the driveline from the engine to the transmission (which powers both rotors), had to be carefully recreated. They also added an extra plexiglass window so museum visitors could see the complex control systems. Notably, only one original metal panel remained; all others were crafted by the team, showcasing their expertise. The restored Piasecki



now stands as a testament to their skill, a once-forgotten relic turned into a Museum highlight.

Current Project: The C-47 Skytrain

The fabric specialists are currently involved in the restoration of the Douglas C-47 Skytrain, a military transport aircraft with a storied history, particularly in its role during D-Day operations. This project, as detailed in a 2024 article from Vintage Aviation News, involves restoring the aircraft to its original World War II configuration for an interactive exhibit alongside its civilian counterpart, the DC-3. The C-47, built in 1944, carried paratroopers of the 101st Airborne Division during the Normandy invasion, making its restoration a significant endeavor in preserving military history.

Most of their work is conducted in public view. Guests often stop and watch the members of Restoration meticulously repair the fabric control surfaces. It is a rare treat for guests actually to see restoration being performed.

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Fabric Restoration

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Restoring fabric-covered control surfaces on the C-47 requires a precise and methodical approach. Again, the process begins with an evaluation of what can be saved and what will need to be fabricated. The sections are removed from the aircraft, stripped down to their metal framing, cleaned of any corrosion, and then painted.



Creating the fabric covering begins with laying a glue line, followed by overlaying unshrunk Dacron fabric, which provides the part's shape. The edges are carefully taped, and the fabric is ironed at precisely 350 degrees to ensure proper adhesion without over shrinking, as temperatures above 360 degrees can cause the Dacron to revert to its original size. Stitching reinforces the fabric, and the team applies Ekofill, an elastomer with silver additives for UV protection. This involves two coats brushed on, one in a north-south direction and one in an east-west direction. This is followed by two coats, sprayed on in a north-south direction and one in an east-west direction. This permeates the fabric's weave to provide strength, weatherproofing, and durability.

This C-47 restoration is expected to be completed by June 6, 2026.

The Legacy of Fabric

The fabric restoration team's work goes beyond just fixing; it's a heartfelt effort that pays tribute to aviation pioneers. Their work helps save aircraft like the Piasecki and C-47, which might have been forgotten, for future generations. The team's efforts are a crucial part of the Museum's goal to inspire and educate the public about aerospace. ➤



My Journey to EASM Restoration

LEROY BROWN

RESTORATION MAINTENANCE CHIEF

My name is Leroy Brown, and I am the new Maintenance Chief for Restoration here at Evergreen Aviation & Space Museum. Before I took on this role, the position was held by Richard Martinez, who seemed to have led it forever. In my earliest conversations with Richard, I asked if they were restoring any aircraft to be flightworthy. And he said, “No.”

Since my professional skills as a cable harness engineer weren't needed at the Museum, I took on the role of Docent on Thursdays and Fridays.

My wife passed on in July of 2022, and by early 2023, I knew that I needed something else to do besides sit around the house waiting for the dog to start talking to me. So, Thursdays were my days as a docent. And I enjoyed those days, the Thursday crew at the time, and even today, were a fun crew to work with. Eventually, I became a docent on Fridays. Paul Gelinas, whom I'd known for a few years through the Museum and the American Legion Post 21 in McMinnville, asked me to come on board on Fridays. As Paul said, most of the guys on the Friday crew were Marines, so I came on as a docent, and I wound up on the Goose. I had a lot of fun, but I wanted to be in Restoration.

When I was a kid, I was always fascinated by mechanical things, especially car engines. Fortunately, for me, the family that lived next door to my grandparents, the Harries, were from Tuskegee, Alabama. After World War II, they migrated north and settled in Gary, Indiana, where I grew up. Sylvester Harris had been a mechanic at Tuskegee, and I watched him and his buddies at numerous air shows during the 1960s and into the early 1970s.

During high school, one thing that was holding me back was my size. As a freshman in high school, I was just 4'11" and weighed about 80 lbs. So, I was an observer, not a participant. But did soak up everything I saw like a sponge. I learned auto mechanics from a man named Charlie Washington.



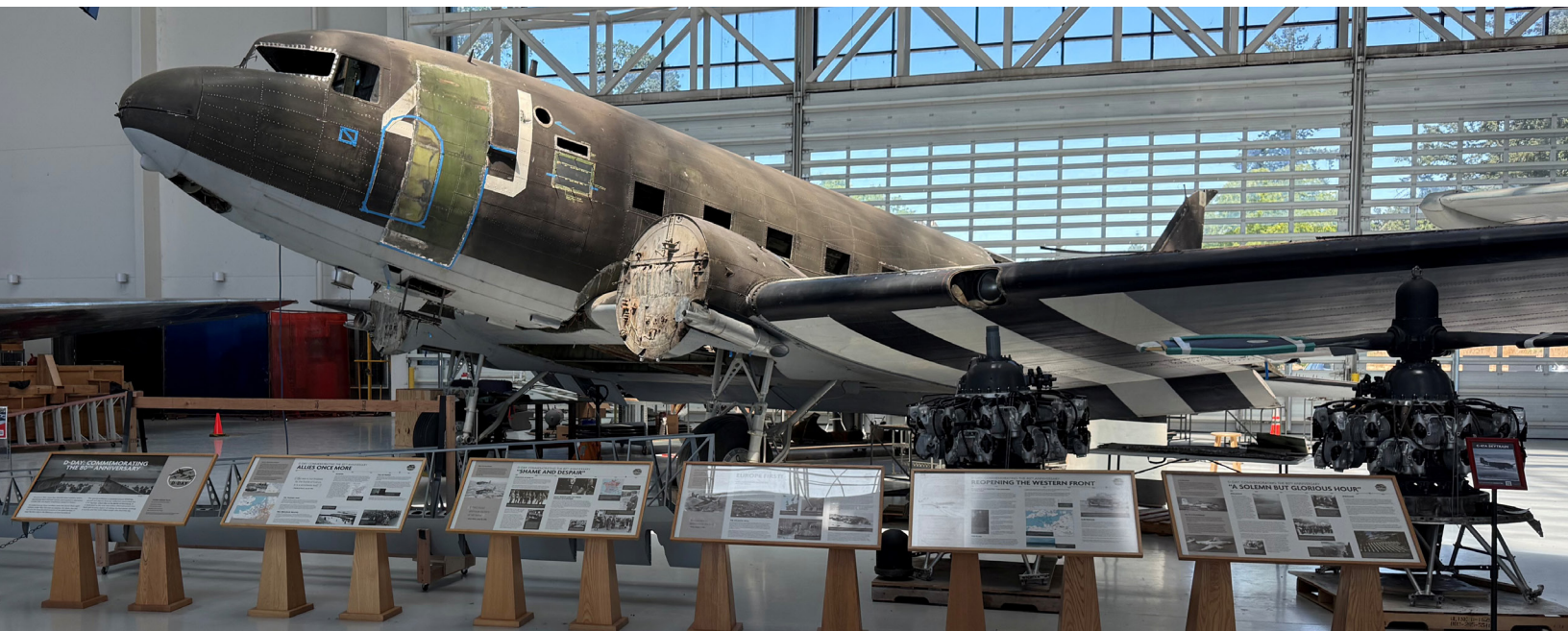
In the fall of 1974, I joined the Marine Corps and was convinced I'd wind up in the motor transport, but I wound up in microwave communications. People always ask me if I was a mechanic in the Marines, and then they ask where I learned mechanics, and I tell them OJT. I worked in aerospace in Chicago and Skokie/Niles, Illinois. I designed electric motors and ran the prototype lab there. My next significant occupational experience was with Williams Bally Midway Games, where I designed test equipment and then cable harnesses.

I never thought that the experience of working on radial engines would be in my hands. However, in February

(CONTINUED NEXT PAGE)

My Journey to EASM Restoration

(CONTINUED FROM PREVIOUS PAGE)



2024, we removed the C-47 from its tricycle pedestal (located in front of the Museum) and began cleaning it for future display. So, when I saw the engines being worked on, I asked if I could help and was sent to Cecil Warren. At first, Cecil had me cleaning up parts as he removed them. It seemed like dirty work, but I soon realized the scope and magnitude of this job.

Everybody had a role to play. I met Mark Fowle, Paul Erni, and Mike Pittman. Everything I learned as a kid came back. Paul primed and painted the cylinders and rocker arm covers. Richard was still in the picture (at this time), and he primed and painted the crankcase. It was and still is a labor of love. We finally got the first engine, the starboard engine, reassembled, and we went home. My next shift I walked in and Cecil, Mark, and Mike were taking it apart. We forgot to put the motor mount and engine shroud back on.

Since it was disassembled, we took the opportunity to chase all the threads of the cylinder mount. It took all day. During the next shift, all the cylinders were segregated because they were different; everything was ready

for final assembly. Cecil asked me after lunch if I was ready, and I said, "Let's do this." It took us probably three hours to remount the 14 cylinders.

For me, the best thing about Restoration is doing our level best to put something back together and make it look like it just came out of the factory. Our biggest mission is to preserve the history of each aircraft we work on. I work with some wonderful men and women. There's a multitude of skill sets in that department. Another task we face is to interact with our guests. There have been countless times we are working on something, and they stop, watch, and ask questions. They watch us interacting with each other, putting our heads together to find a workable solution to a monumental problem.

It's a tough, demanding job. But what was always a childhood dream has become a reality.

Restoration's motto should be: "We got this." But what we've really got is a long way to go. ➤

Raising The Museum to a New Standard

BILL VEITH, INTERVIEWED BY **BILL KOLB**

FACILITIES MANAGER

MONDAY DOCENT, EAST PAVILION

The Evergreen Aviation & Space Museum (EASM) gleamed under the Oregon sun, its reputation as one of the nation's top aviation and space museums well-earned. Inside, unique artifacts like the SR-71 Blackbird and the C-47 tell stories of human ingenuity, preserved by a dedicated restoration team. In complement to that, the Museum's polished environment isn't just aesthetics—it is a testament to the team's commitment to honoring the history the exhibits represent. The result is a museum that not only preserves history but also elevates it, inviting guests to connect with the past in a space as remarkable as the artifacts themselves.

Bill Veith, the Museum's Facilities Manager, often says, "Whatever work we're doing, it'll be done to a high standard. Taking the time now for a long-term benefit is worth it." The focus is clear: the guest experience comes first. From updating bathrooms to dust-free exhibits, every surface a visitor might see, or touch is prioritized. The small Facilities team tackles big issues methodically, knowing that fixing one reveals another

Scotty Michael a.k.a.: The Floor Guy, is a key player in keeping EASM's floors clean and polished. His expertise in floor care has made a significant impact to how the museum shines. For example, the East Pavilion's tiled floor, scuffed and grimy from years of wear, needed special attention. It was clear the floor needed to be stripped and refinished. But before that could be done, tiles had to be replaced. Heavy equipment had cracked the vinyl composite tiles, and prior repairs used mismatched material. There were other tiles, that were cracked and needed replacement. Miraculously, a cache of the original tiles was found in the Green Barn. Scotty, with the help of Jim Gowan, a Vietnam vet, replaced all the tiles and then refinished the floor. The result is a restoration so seamless that it looked as fresh as the day the original floor was laid.



Volunteers like Dale Duree and Chris Bonn, who joined earlier this year, bring passion to the mission. An SR-71 fanatic and Army vet, Dale volunteered to clean the Blackbird in preparation for our Father's Day SR-71 Symposium. With Scott Malandrone, he vacuumed every square inch, hand-cleaned its sleek surface, and applied a sealant to protect it from dust. His detailing was obsessive, like a car enthusiast prepping for a show. Dale's work didn't stop there—he moved on to other planes, ensuring each gleamed. Meanwhile, Chris Bonn tackles the task of keeping aircraft tires inflated. His prior Navy, Oregon National Guard and Air Force Reserves experience shine through in every display he services.

There is an old saying that goes, "Housework is never noticed until it's not done." Maintaining the Museum's clean, fresh environment is no different. The result is a museum that not only preserves history but also elevates it, inviting guests to connect with the past in a space as remarkable as the artifacts themselves. ➤

Visit by Medal of Honor Recipient

BILL KOLB

MONDAY DOCENT, EAST PAVILION

Editor's Note: Only 61 Medal of Honor recipients are alive today. Receiving this award is extremely rare, and about half of the medals are awarded posthumously. In May, we had the honor of hosting James Fleming at the Museum. He was here to see the recently acquired Bell Huey UH-1P helicopter. Very few of the P-models were built, and only a handful still exist. Our helicopter was part of the Air Force's 20th Special Operations Squadron, also known as the Green Hornets. Mr. Fleming's Medal of Honor comes from his time as a helicopter pilot in the Green Hornets. You can read below the details of his extraordinary actions to save American soldiers under withering fire.



On May 5, 2025, we had the honor to host a Congressional Medal of Honor recipient, James Fleming. Mr. Fleming was here to see the recently acquired Bell Huey UH-1P (P-Model) helicopter, which is currently undergoing restoration. He earned his medal while piloting a Huey UH-1F, similar to the UH-1P, in a perilous rescue mission. Our P-Model served in the same 20th Special Operations Squadron, known as the Green Hornets.

An abbreviated rendition of the medal's text is below:

“On 26 November 1968. Captain Fleming distinguished himself as the Aircraft Commander of a UH-1F transport Helicopter. Captain Fleming went to the aid of a six-man special forces long-range reconnaissance patrol that was in danger of being overrun by a large, heavily armed hostile force. Despite the knowledge that one helicopter had been downed by intense hostile fire, Captain Fleming descended and balanced his helicopter on a river bank with the tail boom hanging over open water. The patrol could not penetrate to the landing site, and he was forced to withdraw. Dangerously low on fuel, Captain Fleming repeated his original landing maneuver. Disregarding his own safety, he remained in this exposed position. Hostile fire crashed through his windscreen as the patrol boarded his helicopter. Captain Fleming made a successful takeoff through a barrage of hostile fire and recovered safely at a forward base. Captain Fleming's profound concern for his fellowmen, and at the risk of his life above and beyond the call of duty, are in keeping with the highest traditions of the U.S. Air Force and reflect great credit upon himself and the Armed Forces of his country.”



You can read the full text of his Medal of Honor certificate [here](#). While at the site, please also read the text behind his Silver Star, Distinguished Flying Cross, and Legion of Merit medals.

Mr. Fleming was gracious with his time, presented challenge coins to several docents, and posed for pictures.

There are very few living Medal of Honor winners, and it was an honor and privilege to play host to Mr. Fleming. ✈

Band of Brothers



The McMinnville, Oregon Band of Brothers meets on the **first Thursday of each month** in the large glass-walled room to the left of the primary admissions desk in the West Pavilion (formerly the Aviation Museum). **Meetings run from 11:30 am to 12:30 pm**, with coffee and cookies served. More details can be found at the group's **Facebook page**: <https://www.facebook.com/groups/838928846550343>

JOHN BURLESON

COLLECTIONS & SUNDAY DOCENT

AUGUST 7

On August 7th, we will celebrate the **80th Anniversary of V-J Day**. Bill Hall will be the speaker.

SEPTEMBER 4

On our meeting on Thursday, September 4th, our guest speaker will be **Emily Delo**. Emily is the **Outreach Coordinator, Veterans Affairs** at Linfield University. Emily will discuss how the university reaches out to veterans and offers support, as well as how to access their education benefits. Emily's family members were Vietnam Era veterans.

The 2025 Oregon International Air Show

TERRY HOWELL

CHIEF OPERATING OFFICER

GENERAL AIR SHOW INFO:

Featuring: The Royal Canadian Air Force's Snowbirds! **Sept. 26th thru 28th** - The Air Show kicks off at about 12:30 PM and runs to 4:15 PM each day (The Museum will be open to the public from 9 to 5 daily)

WHAT'S THE PLAN FOR THIS YEAR'S AIR SHOW?

This year we are changing things up a bit... we won't be having our typical full-scale Watch Party with food trucks and a beer garden this year. But our Museum guests will still be able to enjoy the sights and sounds of the Oregon International Air Show, while checking out all the new exhibits and recent updates at the Museum. Museum guests may bring lawn chairs and watch the air show and enjoy our outdoor exhibits.

IMPORTANT DETAILS:

Parking will be restricted to Museum guests, staff & volunteers only. **Members, Staff & Volunteers are free.** Members will have a reserved seating area to watch the air show.

If you would like to bring your RV for the weekend, you can click **here** to purchase an RV pass.

Those who wish to watch the Oregon International Air Show may purchase their tickets at the official Oregon Airshow site **here**. We have arranged for a special Evergreen Museum Member/Volunteer discount for our members and volunteers that wish to attend the Air Show at the McMinnville Airport; the Promo Code is available on request.

Visit the **Oregon International Air Show Website here** for more details on this year's performers. Link to Details & FAQs **here**.

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.



AUGUST FLIGHTPLAN NEWSLETTER CONTRIBUTORS

EDITOR:

BILL KOLB

BILL@KOLBVINEYARDS.COM

FEATURE WRITERS:

DONN ANDERSON, LEROY BROWN, JOHN BURLESON, BURT HOTCHKISS, TERRY HOWELL, BILL KOLB, SCOT LANEY, SCOTT MALANDRONE, WAYNE MUTZA, BOB NALL, DAN OVEN, ALLYN VANNOY, BILL VEITH, EVA WENDT

LAYOUT:

ROB ZEH

.....

EMAIL SUBMISSIONS TO: FLIGHTPLAN@EVERGREENMUSEUM.ORG