

NAVAL AVIATION NEWS

THE FLAGSHIP PUBLICATION OF NAVAL AVIATION SINCE 1917

SPRING 2023

CELEBRATING 50 YEARS OF **WOMEN FLYING IN THE NAVY**



WHAT'S INSIDE

- ▶ Aircrew, Aviator Hearing Protection Gets Upgraded
- ▶ WWII Pilot Makes A Long Journey Home
- ▶ Lab Brings Environmental Tests Indoors

◀◀ BACK TO TOP ◀◀

CELEBRATING
50 YEARS OF
**WOMEN
FLYING
IN THE
NAVY**

22 i

34 i

**Lakehurst Lab
Brings Environmental
Challenges Inside
for Equipment Testing**

Daddy's Home

Coordinated Effort Results in
Long-Deserved Final Rest for
WWII Naval Aviator

36 i

**THE NAVY'S NEW
HEARING PROTECTION:**
Made-to-Measure for Every Sailor

44 i



A U.S. Navy EA-18G Growler aircraft attached to Electronic Attack Squadron (VAQ) 132, based out of Naval Air Station Whidbey Island, Wash., prepares for flight during Northern Edge 23-1 at Joint Base Elmendorf-Richardson, Alaska, May 8.

U.S. Navy photo by MCS Jen S. Martinez

NAVAL AVIATION NEWS

SPRING 2023

VOLUME 105, No. 2

DEPARTMENTS

- 4 Airscoop
- 21 Grampaw Pettibone

FEATURES

SPECIAL SECTION

22 CELEBRATING 50 YEARS OF **WOMEN FLYING IN THE NAVY**

- 34 **Lakehurst Lab Brings Environmental Challenges Inside for Equipment Testing**
- 36 **Daddy's Home:** Coordinated Effort Results in Long-Deserved Final Rest for WWII Naval Aviator
- 44 **The Navy's New Hearing Protection:** Made-to-Measure for Every Sailor
- 46 **FRCE Selected as Depot Source of Repair for New Air Force Combat Rescue Helicopter**
- 48 **FRCSW Ally Support Strengthens Royal Australian Air Force**
- 49 **FRCE Secures Future Components Workload for Air Force MH-139A Grey Wolf**
- 50 **FRCE Secures Future C-130 Workload, Plans for 200-Plus New Jobs**
- 52 **FRC Southeast Innovates to Support Fleet Need for Air Combat Training Aircraft**
- 54 **From Demo to Depot:** New Application of Cold Spray Technology Arrives at FRCE
- 56 **FRCE Marks 100th F-35 Parachute Milestone**
- 58 **FRCE Transportation Branch Keeps Production Moving with New Trailer**
- 60 Professional Reading

ALSO IN THIS ISSUE

ON THE COVER



In this issue of Naval Aviation News, we celebrate 50 years of women flying in the Navy. Starting on page 22, female Navy and Marine pilots share their experiences, perspectives and advice to readers and prospective aviators. On page 44, learn how the Naval Air Warfare Center Aircraft Division is aiming to preserve hearing for aviators and aircrew by making custom-fitting hearing protection devices. An amazing story charting the identification of the remains of Cmdr. Frederick Schrader—a World War II naval aviator who was shot down during an attack on Toko Seaplane Base on Formosa—and his return home nearly 80 years later begins on page 36. And on page 34 learn how the Environmental Test Lab at Naval Air Warfare Center Aircraft Division Lakehurst, New Jersey, is simulating environmental stressors for aircraft indoors in an effort to address issues and ensure mission readiness. (U.S. Navy photo illustration by Fred Flerlage; imagery provided by U.S. Navy)

The U.S. Navy's Oldest Periodical, Established 1917

Director, Air Warfare

Rear Adm. Andrew Loiselle, USN

Editor in Chief

David Byrd, Naval Air Systems Command

Editorial Board

Rita Boland, Naval Aviation Enterprise

FORCM Jimmy Hailey, USN, Naval Air Force Atlantic

Stan Coerr, Headquarters, Marine Corps

Cmdr. Zachary Harrell, USN, Naval Air Forces

Marcia Hart, Naval Air Systems Command

Richard Holcomb, Air Warfare N98

Naval Aviation News Staff

Fred Flerlage, Art Director, Naval Air Systems Command

Rob Perry, Staff Writer/Editor, Naval Air Systems Command

Contributing Editors

Melissa A. Johnson, Naval Air Systems Command

Columnists

Cmdr. Peter Mersky, USNR (Ret.), Book Review Editor

Cmdr. Bryan Dickerson, USN (Ret.), Contributing Editor

Subscriptions

Due to issues beyond our control, Naval Aviation News is ceasing the publication of our print product and focusing on the development of a full digital experience for readers. Please visit our website <https://navalaviationnews.navylive.dodlive.mil> to track our digital migration process and download archive copies of the publication.

Current subscribers will be contacted by the U.S. Government Printing Office with details regarding refunds for the remainder of their 2022 subscription. Questions regarding refunds should be directed to contactcenter@gpo.gov. Official subscriptions to military and government agencies will also discontinue.

Submission Guidelines

Commands may send news and announcements such as awards, rescues, milestones and other achievements to navy_nannews@navy.mil. Photos of Naval Aviation-oriented activities are always welcome. For longer feature articles, contact the editor in advance. Military contributors should forward articles about their commands only after internal security review and with command approval. For more information, contact us at navy_nannews@navy.mil.

Naval Aviation News (USPS 323-310; ISSN 0028-1417) is published quarterly for the Chief of Naval Operations by the Naval Air Systems Command. The Secretary of the Navy has determined that this publication is necessary in the transaction of business required by law. The use of a name of any specific manufacturer, commercial product, commodity or service in this publication does not imply endorsement by the Navy. Any opinions herein are those of the authors, and do not necessarily represent the views of Naval Aviation News, the Department of the Navy or the Department of Defense.

Approved for public release: SPR No. 2023-476

NAVAIR Public Release Distribution Statement A – "Approved for public release; distribution is unlimited"

SEND YOUR FEEDBACK TO: navy_nannews@us.navy.mil

Airscoop

Compiled by Rob Perry

Navy Launches Historic Aircrew Study to Update Size Requirements for a Diverse Fleet

PATUXENT RIVER, Md.—The Naval Air Warfare Center Aircraft Division (NAWCAD) is leading the Navy's first comprehensive study since 1964 to update aviator size requirements, improve aircrew gear and equipment, and expand access for prospective future aviators. This is the Navy's first aircrew study to include women and minorities.



Lt. Jennifer Knapp, an aerospace experimental psychologist and former naval flight officer, sits for head measurements by anthropometry scientist Lori Brattin Basham of the Naval Air Warfare Center Aircraft Division at Naval Air Station Patuxent River, Maryland.



Lt. Jennifer Knapp, an aerospace experimental psychologist and former naval flight officer, stands for body measurements by an anthropometry scientist of the Naval Air Warfare Center Aircraft Division at Naval Air Station Patuxent River, Maryland.

U.S. Navy photo by Chuck Regner

U.S. Navy photo by Chuck Regner

“We are excited to launch this historic study that will improve the readiness, protection, performance and safety for our Navy’s aviation community,” said Lori Basham, NAWCAD’s principal investigator for the study. “Updating our data to accurately characterize our aircrew will address the needs of a population that is drastically different than it was in the 1960s.”

NAWCAD is seeking participation from more than 4,000 active-duty, enlisted, and commissioned aviators, flight officers and aircrew. The research team will measure these service members across the country when they tour the Navy’s most populous air bases from through December 2023. Participation in the 30- to 50-minute study will require 32 simple body measurements that include various heights, lengths, breadths and circumferences that are relevant to aircrew. Researchers will remove personal information to protect participant privacy.

Traditional anthropometric studies are expensive, historically costing between \$6 and \$14 million dollars in industry settings, depending on the scope of effort. Today, NAWCAD can perform its own study almost completely in-house, costing the Navy less than \$2 million, due to the command’s advanced 3D scanning hardware and expertise as well as supportive technology and subject matter experts through other services and industry partnerships.

For more information on the study or for participation coordination, contact Lt. Jennifer Knapp at jennifer.a.knapp2.mil@us.navy.mil. For study technical questions, contact Lori Brattin Basham at lori.l.basham2.civ@us.navy.mil.

From the Naval Air Warfare Center Aircraft Division public affairs. 🦅

Navy Fields New Protective Headgear for Marine Corps Aviation Maintainers



U.S. Navy Photo

The Naval Aircrew Systems Program Office is fielding new headgear, the Head Gear Unit Number 98/Personal Use (HGU-98/P) cranial that improves both head and hearing protection for fleet Marine Corps aviation maintainers. Pictured are two aviation maintainers at Marine Corps Air Station Miramar, California, using the HGU-98/P. From left are the HGU-98 X5 and the HGU-98 X4.

PATUXENT RIVER, Md.—The Naval Aircrew Systems Program Office is fielding new headgear, the Head Gear Unit Number 98/Personal Use (HGU-98/P), that improves both head and hearing protection for fleet Marine Corps aviation maintainers.

The program office incorporated the latest advancements and information gained from market research, lab testing and fleet assessments to select the new Marine Corps maintenance cranial, the Team Wendy Exfil Light Tactical Polymer helmet, which is a commercial-off-the-shelf solution.

“The HGU-98/P provides improved impact protection and increased hearing protection, which are long overdue improvements that our maintainers deserve,” said Capt. Carey Castelein, program manager.

Since the inception of protective headgear in the 1950s, a major challenge has been to design helmets that offer the required impact and hearing protection while providing a system that provides a comfortable fit. Because flight lines and flight decks are noto-

riously loud, a safe and comfortable helmet is mission critical.

The new cranial comes in two sizes and an alternate H-shaped back retention system to accommodate a hair bun. The HGU-98/P also features two different styles of hearing protection, both rail mounted to the helmet, with either X4 ear cups for a slimmer fit or X5 with larger ear cups but with better sound attenuation.

“Through research, test and fleet assessments, our team was able to determine the best possible solution for improved head and hearing protection, taking into account cost, performance and user feedback,” said Jennifer Bartnick, program office team lead.

Squadrons that began receiving the HGU-98/P flight deck helmet system in October 2022 have given favorable feedback. Fielding to Marine Corps aviation units will continue through the end of the year, and the cranial with additional capability will begin delivery next year.

From the Naval Aircrew Systems Program Office. 🦅

Two Marine Corps Aviators Earn Second Set of Wings After Completing New Program

CORPUS CHRISTI, Texas—Two Marine Corps Weapon Systems Officers (WSOs), Lt. Col. James Corrington and Maj. Syed Rashid, both earned a second set of the coveted “Wings of Gold” March 23, after completing flight training with the “Rangers” of Training Squadron (VT) 28. Their recent flight training allows both officers to become instructor pilots in the T-6B Texan II, the Navy’s primary flight trainer.

At the beginning of their careers, both officers completed training and served tours as WSOs. WSO is the Navy and Marine Corps terminology for a Naval Flight Officer (NFO) that operates as one of two crew members in the F/A-18D or F/A-18F. In those aircraft the WSO operates in the rear seat, behind the pilot. Their inflight responsibilities include navigation and operating weapon and aircraft systems.

Now complete with pilot flight training, Corrington and Rashid are entitled to wear the warfare devices of the Naval Aviator (pilot) and Naval Flight Officer. The VT-28 winging ceremony was held onboard Naval Air Station Corpus Christi and is the first “winging” in over 30 years of VT-28 history.

VT-28 was originally commissioned in May 1960 as an advanced training squadron for multi-engine flight training. Decades later, in 1990, VT-28 was repurposed as an instructor training squadron. Three years later, VT-28 became a primary aviation training squadron in 1993. By training and qualifying Corrington and Rashid as pilots, the pair are the first “wingers” to graduate from the squadron in over 30 years. Since 1993, typical Student Naval Aviators (SNAs) complete primary flight

training and then continue to train in an advanced flight training squadron prior to receiving their wings.

Their newly repurposed careers are the result of the Professional Flight Instructor Program designed to supply Naval and Marine Corps Aviation with additional instructors via non-traditional career paths. Although the program has already produced new instructors in recent years, Corrington and Rashid are the first two candidates to graduate and “wing” directly from a primary training squadron before reporting to the Fixed Wing Instructor Training Unit (FITU). At the FITU, they will hone their teaching skills in the same aircraft (T-6B) before returning to a primary squadron where they will immediately begin teaching new students.

This unconventional path is an avenue capable of quickly producing T-6B instructors at a greatly reduced cost. The cost savings are a result of a shortened amount of time-to-train because candidates are already experienced aviators. Additionally, candidates like Corrington and Rashid, who will instruct SNAs operating the T-6B, are not required to undergo follow-on training in advanced flight trainers because they will only instruct SNAs in the primary phase of flight training.

Rashid, at the beginning of his career, was unable to pursue training as a pilot due to issues relating to eyesight. As a result, he continued down the career path of a WSO, but he always kept an eye out for a path to transition from the backseat of the jet to the front. Following his first tour as a WSO, he received corrective eye surgery and began applying to transition to the pilot career path in 2016.

Lt. Col. James Corrington and Maj. Syed Rashid stand as the flyer’s creed is read during their winging ceremony, March 23.

Corrington and Rashid, both prior weapons systems officers (WSOs), earned their pilot wings as part of the Professional Flight Instructor Program and are entitled to wear the warfare devices of the Naval Aviator and the Naval Flight Officer.



U.S. Navy photos by Anne Owens

“I’d been trying since then [2016] to move to the front seat, it’s been a dream of mine since childhood to be at the controls of an aircraft,” Rashid said. “This program that became available in the last few years, the Professional Flight Instructor Program, took guys and gals like the myself who had been serving as Naval Flight Officers, and took the experience we had in aviation, and applied that to learning to fly and ultimately to instruct the young generation of future Naval and Marine aviators. It was something I couldn’t pass up on.”

The Professional Flight Instructor program selects candidates with already existing and extensive professional aviation experience. Officers like Corrington and Rashid are able to leverage their time as NFOs and WSOs to quickly and expertly adapt to their new responsibilities as instructor pilots. Seasoned Aviators selected by the Professional Flight Instructor Board are able to continue instructing late into their careers as an alternative to the traditional sea/shore rotation that requires most instructor pilots to eventually return to the fleet.

“Marine Corps leadership understands that WSOs are an untapped resource [for Naval Aviation]. There is a lot of aeronautical experience in the WSO community. It’s kind of a gimme, to send us to flight school because we have all that experience of flying on the instruments, talking on the radios, and have mastered those harder concepts that make training complicated for a [traditional] student while learning how to fly. Now you put us in the program and all we need to do is, literally, learn to wiggle the stick around,” Corrington said.

In 2021, the “Sabrehawks” of VT-86 graduated and winged the last two Marine Corps WSOs needed to operate the F/A-18D Hornet. With the Marine Corps reducing need for WSOs as the organization moves to the F-35 Lighting II (a single-seat advanced strike fighter), individuals like Corrington and Rashid have become a valuable resource for the Navy and Marine Corps to repurpose as Naval Aviation looks to continue producing the next generation of professional warfighters.

“I’ve been an instructor in the F/A-18, I’ve had all of the qualifications [in that aircraft] that a WSO could have, I’ve been teaching for a very long time and I was also a teacher prior to joining the Marine Corps. That is an aspect of me, that I really enjoy teaching and now, as a Lt. Col., the flying opportunities can be pretty limited, so to be able to come back here to flight school to learn how to be a pilot and then to turn around and instruct is really just a very unique opportunity and I’m very grateful that the Marine Corps was able to select me for this program. I love teaching and I love flying,” Corrington said.

VT-28 is one of 17 training squadrons led by the Chief of Naval Air Training (CNATRA). CNATRA trains, mentors and delivers the highest quality Naval Aviators who prevail in competition, crisis and conflict. Headquartered at NAS Corpus Christi, CNATRA comprises five training air wings in Florida, Mississippi and Texas. In addition, CNATRA oversees the Navy Flight Demonstration Squadron—the Blue Angels—and the training curriculum for all fleet replacement squadrons.

From Chief of Naval Air Training Public Affairs. 🇺🇸



Maj. Syed Rashid receives his second set of “Wings of Gold” during the first Training Squadron (VT) 28 winging in its 30-year history, March 23. Rashid is one of two prior weapons systems officers (WSOs) who completed flight training as part of the Professional Flight Instructor Program and are entitled to wear the warfare devices of the Naval Aviator and Naval Flight Officer.



U.S. Marine Corps Sgt. Maj. Janet Marrufo and Lt. Col. Michael Fisher, both with Marine Fighter Attack Squadron 311, Marine Aircraft Group 11, 3rd Marine Aircraft Wing, unfurl the squadron colors during a reactivation ceremony at Marine Corps Air Station Miramar, California, April 14.

Marine Corps Activates Second F-35C Squadron

MIRAMAR, Calif.—Third Marine Aircraft Wing (MAW) reactivated Marine Fighter Attack Squadron (VMFA) 311, an F-35C Lightning II squadron, at Marine Corps Air Station Miramar, California, April 14. VMFA-311 is the U.S. Marine Corps’ second F-35C squadron. The F-35C is a land and/or carrier-based platform boasting long-range flight and high weapons payload capabilities. Formerly VMA-311, the Tomcats have made their mark on Marine Corps aviation for decades, and now will continue their legacy.

Notable Tomcats veterans include Ted Williams and John Glenn. Williams left a Major League Baseball career for service in World War II and Korea, and later was inducted into the Baseball Hall of Fame. Glenn was a distinguished fighter pilot in World War II and Korea, who later became an astronaut and public servant.

Third MAW Commanding General Maj. Gen. Bradford J. Gering is also a Tomcat.

“Having twice served in VMA-311, the Tomcats hold a special place in my heart,” Gering said. “We are extremely excited to add another F-35C squadron to 3rd MAW. The range and operational flexibility that VMFA-311 will bring to the Marine Expeditionary Force is impressive and adds to our warfighting capacity in every domain.”

The Marine Corps is undergoing

a key transition to the F-35 to maintain its advantage in future conflicts, thereby deactivating VMA-311 on Oct. 15, 2020. The reactivation of VMFA-311 marks the transition for the squadron to the F-35C Lightning II, which brings its unique capabilities to 3rd MAW as a long-range compliment to their existing aviation assets.

“The F-35C brings a long-range fighter/attack platform with the most advanced stealth and sensor capabilities in the Marine Corps,” said Lt. Col. Michael P. Fisher, the commanding officer of VMFA-311. “The Harrier was a great weapon that served the Marine Corps well and has been replaced with a more advanced and capable platform. The F-35 was designed for the near-term and future fight.”

The reactivation supports the 2022 Marine Corps Aviation Plan, which outlines ongoing modernization efforts across Marine aviation. The plan prioritizes readiness, reinforces the importance of flying from the sea, and refocuses on manpower, support to logistics and modern capabilities.

“We are taking an aggressive approach to build capabilities that will move, sustain, and support the individual Marine while making the force more lethal, effective and survivable,” said then-Deputy Commandant for Aviation Lt. Gen. Mark R. Wise in the 2022 plan.

The Tomcats, a notable squadron of “firsts” for Marine Corps aviation, originally commissioned in 1942 as Marine Attack Squadron 311 at Marine Corps Air Station Cherry Point, North Carolina, where it first deployed in support of the World War II island hopping campaign.

The squadron led the way for Marine Corps aviation in many groundbreaking events: it was the first Marine squadron to use fighter aircraft for dive bombing missions, flew the first Marine combat mission with jets in 1950 during the Korean War, was the first Marine squadron to employ the AV-8B Harrier in combat during Operation Desert Shield, the first to fly combat missions in Afghanistan during Operation Enduring Freedom and participated in the first combat sortie of Operation Iraqi Freedom in 2003.

“This reactivation is not about the aircraft, it’s about the people,” said Col. Shannon M. Brown, commander of Marine Aircraft Group 11. “Looking at what this squadron did over the years is impressive considering its 13 Navy Unit Commendations. The Tomcats are all about fighting and winning and now this legacy is entrusted to Lt. Col. Fisher.”

“We will never forget where we came from,” Fisher said in his remarks. “Let’s make history.”

Written by 2nd Lt. Andrew Baez, 3rd Marine Aircraft Wing. 🇺🇸



U.S. Navy photo by MCSN Nathan T. Bear

Line handlers stand by as the capital ship of the Gerald R. Ford Carrier Strike Group (GRFCSG), aircraft carrier USS Gerald R. Ford (CVN 78), departs Naval Station Norfolk, Virginia, for a routine deployment, May 2.

Gerald R. Ford Carrier Strike Group Deploys

NORFOLK, Va.—The capital ship of the Gerald R. Ford Carrier Strike Group (GRFCSG), the first-in-class aircraft carrier USS Gerald R. Ford (CVN 78), departed Naval Station Norfolk, Virginia, for a routine deployment, May 2.

“This strike group is the cornerstone of our Navy’s forward operations, capable of meeting any tasking provided by regional combatant commanders to ensure peace and stability at sea,” said Rear Adm. Greg Huffman, Commander, Carrier Strike Group 12. “Our presence at sea throughout the deployment will provide reassurance to our partners and Allies that sea lanes will remain open and our joint operations will demonstrate our commitment to interoperability and maritime stability.”

Ford’s second deployment marks the flagship’s first combat deployment, following its two-month deployment to the U.S. 2nd and 6th Fleet areas of operation in autumn 2022.

“The Sailors of Gerald R. Ford are ready and able to perform because of the strenuous training they have put in to get this ship ready to deploy, and also in large part to the support of their families and friends,” said Capt. Rick Burgess, Ford’s commanding officer. “This ship and crew are actively reshaping the face of our Navy’s capabilities and strengthening the future of Naval Aviation.”

The GRFCSG provides an inherently flexible naval force capable of deploying across combatant commands to meet emerging missions, deter potential adversaries, reassure allies and partners, enhance security and guarantee the free flow of global commerce.

The GRFCSG consists of Carrier Strike Group (CSG) 12 staff, Gerald R. Ford, Carrier Air Wing (CVW) 8, Destroyer Squadron (DESRON) 2 staff and units, Ticonderoga-class guided-missile

cruiser USS Normandy (CG 60) and the Information Warfare Commander. In total, the GRFCSG deploys with more than 6,000 Sailors across all platforms ready to respond globally to combatant commander’s tasking.

The ships of DESRON 2 are the Arleigh Burke-class guided-missile destroyers USS Ramage (DDG 61), USS McFaul (DDG 74) and USS Thomas Hudner (DDG 116).

The squadrons of CVW-8 embarked aboard Gerald R. Ford are the “Tridents” of Helicopter Sea Combat Squadron (HSC) 9, the “Bear Aces” of Airborne Command and Control Squadron (VAW) 124, the “Rawhides” of Fleet Logistics Support Squadron (VRC) 40 located in Norfolk, the “Ragin’ Bulls” of Strike Fighter Squadron (VFA) 37, the “Blacklions” of Strike Fighter Squadron (VFA) 213, the “Golden Warriors” of Strike Fighter Squadron (VFA) 87, the “Tomcatters” of Strike Fighter Squadron (VFA) 31 located in Virginia Beach, Virginia, the “Gray Wolves” of Electronic Attack Squadron (VAQ) 142 located in Whidbey Island, Washington, and the “Spartans” of Helicopter Maritime Strike Squadron (HSM) 70 located in Mayport, Florida.

Ford is the U.S. Navy’s newest and most advanced aircraft carrier. As the first-in-class ship of Ford-class aircraft carriers, CVN-78 represents a generational leap in the U.S. Navy’s capacity to project power on a global scale. Ford-class aircraft carriers introduce 23 new technologies, including Electromagnetic Aircraft Launch System, Advanced Arresting Gear and Advanced Weapons Elevators. The new systems incorporated onto Ford-class ships are designed to generate a higher sortie rate with a 20 percent smaller crew than a Nimitz-class carrier, paving the way forward for Naval Aviation.

From Commander, U.S. 2nd Fleet. 🦋

George H.W. Bush Carrier Strike Group Completes Historic Deployment

NORFOLK, Va.—The George H.W. Bush Carrier Strike Group (CSG)—comprised of the Nimitz-class aircraft carrier USS George H.W. Bush (CVN 77), Carrier Air Wing (CVW) 7, Destroyer Squadron (DESRON) 26, the Ticonderoga-class guided-missile cruiser USS Leyte Gulf (CG 55), and the Information Warfare Commander—returned April 23 to Norfolk, Virginia.

The strike group arrived in the European theater in August of last year, projecting U.S. and Allied power and deterring aggression by training and operating with allies and partners for nearly eight months.

Further showcasing the U.S.'s ironclad commitment to NATO, George H.W. Bush CSG hosted NATO Secretary General Jens Stoltenberg while under NATO command for the vigilance activity Neptune Strike (NEST) 22.2.

“This carrier sends a powerful message of Allied deterrence every day,” Stoltenberg said during his visit. “A perfect example of the transatlantic bond—Europe and North America working together in NATO.”

Stoltenberg said the George H.W. Bush CSG's participation in the vigilance activity demonstrated our ability to rapidly reinforce our Allies and project power across the Alliance.

“NATO's strength helps to prevent any miscalculation by sending a clear message: NATO will protect and defend every inch of Allied territory,” he said.

In addition to NEST 22.2 and NEST 23.1, the strike group

played a key role in major events with allies and partners throughout deployment including:

- Dual and tri-carrier operations five times in theater with ESPS Juan Carlos I, ITS Cavour and the French Carrier Strike Group with FS Charles de Gaulle;
- Exercise Mare Aperto 22-2;
- Exercise Juniper Oak, the largest U.S.-Israeli military exercise in history in support of U.S. Central Command and U.S. 5th Fleet while assigned to U.S. 6th Fleet;
- Exercise Hemex Orion;
- Exercise Dynamic Manta;
- Shipboard exercises and events with ITS Caio Duilio, HRV Dubrovnik, ALS Butrinti and ALS Lissus, ITS Carabinieri, ITS Virginio Fasan and TCG Gungor Durmas;
- Two iterations of the Spanish Tactical Leadership Program (TLP) for Carrier Air Wing (CVW) 7 personnel;
- The Athens International Air Show;
- The EURONAVAL Trade Show in Paris;
- 35 key leader engagements, five major receptions and protocol events in Crete, Croatia, Italy, France, and Greece which included more approximately 1,536 visitors to the aircraft carrier alone;
- And multiple press conferences in NATO port visits to reassure host nation audiences and reinforce existing relationships for future maritime operations and international stability.

Aircraft carrier USS George H.W. Bush (CVN 77), along with the staff of carrier Strike Group (CSG) 10, returns to Naval Station Norfolk, Virginia, following an eight-month deployment, April 23.



U.S. Navy photo by MC2 Anderson W. Branch

Rear Adm. Dennis Velez, commander, George H.W. Bush CSG, and his major commanders and subordinate units continuously engaged senior military and civilian leaders throughout the region to increase unity of effort within the Alliance through 21st century maritime diplomacy.

“Since the beginning of our Navy, we have been seagoing diplomats. I have operated that way throughout my entire career, and our Sailors represented U.S. and Allied interests incredibly well throughout deployment,” Velez said. “The trust our strike group built with our Allies and partners is our competitive advantage as an Alliance. Our teamwork increased our collective capability and deterred our adversaries, which I believe helped prevent expansion of war into NATO territory.”

The ships of DESRON-26 completing deployment with CSG-10 are the Arleigh Burke-class guided-missile destroyers USS Nitze (DDG 94), USS Truxtun (DDG 103), and USS Delbert D. Black (DDG 119).

The squadrons of CVW-7 embarked aboard the George H.W. Bush are the “Sidewinders” of Strike Fighter Squadron (VFA) 86, the “Jolly Rogers” of VFA-103, the “Knighthawks” of VFA-136, the “Pukin Dogs” of VFA-143, the “Bluetails” of Airborne Command and Control Squadron (VAW) 121, the “Patriots” of Electronic Attack Squadron (VAQ) 140, the “Nightdippers” of Helicopter Sea Combat Squadron (HSC) 5, and the “Grandmasters” of Helicopter Maritime Strike Squadron (HSM) 46.

From Carrier Strike Group 10 public affairs. 🦅

Navy Receives Final JPALS Unit Delivery



U.S. Navy photo

An F-35C Lightning II, from the “Rough Raiders” of Strike Fighter Squadron (VFA) 125, makes an arrested gear landing on the flight deck of the aircraft carrier USS Nimitz.

PATUXENT RIVER, Md.—The Navy accepted delivery of the final Joint Precision Approach and Landing Systems (JPALS) unit March 16, marking another on-time or ahead of schedule delivery for increased capability at sea.

JPALS is a ship-relative GPS-based system that provides aircraft carriers and amphibious assault ships with precision approach and landing capability, surveillance, and over-the-air inertial alignment in all weather and mission environments.

“This is a significant milestone for the JPALS team and highlights the incredible

efforts of hundreds of our teammates over the past decade who developed and now have fully delivered these critical systems that our warfighters and international partners need,” said Capt. Kevin Watkins, Naval Air Traffic Management Systems program manager. “This team overcame many barriers over the past several years, successfully achieving the required outcome to deliver all of the capabilities needed, on time and affordably.”

JPALS is currently being deployed on all U.S. Navy aircraft carriers and amphibious assault ships, and is on the United Kingdom Royal Navy’s HMS

Queen Elizabeth and the Italian Navy’s ITS Cavour. Japan became the third foreign military sale customer in December and is scheduled to be deployed on the Japan Maritime Self-Defense Force’s JS Izumo in 2024.

JPALS has been supporting F-35B deployments on U.S. Navy LH-class amphibious assault ships since 2016 and F-35C deployments on U.S. Navy aircraft carriers since 2021. Initial operational capability was reached in May 2021 with full operational capability scheduled for fiscal year 2026.

From the Naval Air Traffic Management Systems Program Office. 🦅

Unmanned Aerial Vehicle Enhancing U.S. Navy, NATO Capabilities

U.S. Air Force photo by David Lipp



Members of 119th Wing participate in Victory Hooligan Exercise at the North Dakota Air National Guard Base in Fargo, North Dakota, on June 6, 2021.

MEDITERRANEAN SEA—An MQ-9 unmanned aerial vehicle (UAV) operated by the 89th Attack Squadron, Ellsworth Air Force Base, South Dakota, conducted Operation Jackpot Hooligan III during Operation Neptune Strike 23.1, on Feb. 23. During the event, the UAV integrated with air and naval forces to execute a simulated long-range missile strike on a simulated adversarial ship.

“The cutting-edge capabilities provided by the MQ-9 allowed airmen on the other side of the world to have a positive, direct impact on combat operations in the middle of the Ionian Sea, giving Naval Strike and Support Forces NATO the ability to make decisions in real-time and to deliver decisive combat victories,” said Capt. Alex Hampton, commander, Carrier Air Wing (CVW) 7. “This is one

example of what the MQ-9 can do for the U.S. Navy to continuously increase NATO’s military capabilities across all warfighting domains.”

NATO Air Command, comprised of airmen from France and Great Britain, located the ship in the southern Ionian Sea using long-range synthetic-aperture radar. The team used the information to create a realistic combat scenario and provided the information to the MQ-9.

The MQ-9 passed the target ship’s coordinates to an E-2D Hawkeye, attached to Carrier Airborne Command and Control Squadron (VAW) 121, who then passed the information to a strike force comprised of F/A-18s, attached to CVW-7, and Spanish AV-8B Harriers.

The E-2D successfully vectored the strike force to an area safe from simulated enemy air defenses. The strike force then began its attack utilizing the intelligence provided by the UAV.

MQ-4C Triton Concludes U.S. 7th Fleet Deployment, Looks to the Future



U.S. Navy photo by MC2 Austin G. Collins

An MQ-4C Triton Unmanned Aircraft System (UAS) assigned to Unmanned Patrol Squadron 19 (VUP-19), lands at Naval Station Mayport, Florida, Oct. 14, 2022.

ANDERSON AIR FORCE BASE, Guam—Operated by Unmanned Patrol Squadron (VUP) 19, the MQ-4C is a high-altitude, long-endurance maritime intelligence, surveillance, reconnaissance and targeting (MISR&T) platform that complements the P-8A Poseidon’s capabilities.

“Triton helps bolster our Intelligence, Surveillance and Reconnaissance (ISR) operations on a global stage” said Lt. Christopher Lee, a Triton naval flight officer. “The communication and safety nets Triton brings to our friendly units is a game-changer.”

The MQ-4C began operating in the 7th Fleet area of operations (AOO) in 2020 to commence developing tactics, techniques and procedures for unmanned aircraft operations. The two aircraft in the baseline configuration known as Integrated Functional Capability (IFC) 3 were forward deployed supporting a tasking for Commander, Task Force 72. During this time, Triton conducted ISR operations using its multi-sensor mission payload.

While Andersen Air Force Base on Guam served as the primary location for VUP-19, MQ-4C aircraft also deployed to Misawa Air Base and Marine Corps Air Station (MCAS) Iwakuni, both in Japan, to refine the concept of operations for expeditionary basing. The ability to flexibly deploy to multiple sites within the 7th Fleet AOO was a successful outcome during the EOC period.

VUP-19 will return to 7th Fleet in 2023 to start the MQ-4C’s initial operational capability (IOC). The IOC period will utilize multiple Triton aircraft in the upgraded IFC-4 configuration to conduct enhanced MISR&T operations with an upgraded sensor suite.

Lee provided insight into the IFC-4 transition and discussed the new capabilities replacing aspects of the EP-3.

“Having the MQ-9 involved in Operation Neptune Strike was a great opportunity to train with our NATO partners, which we rarely get to do,” said Maj. Matt Mraz, MQ-9 liaison officer, embarked aboard the Nimitz-class aircraft carrier USS George H.W. Bush (CVN 77). “Since partnering with Carrier Strike Group (CSG) 10 six months ago, we’ve increased our combined lethality while decreasing the time needed to work through our standard kill chain process. This strike exercise is the first of many great things for U.S. Air Force and U.S. Navy integration.”

Throughout the attack run, the MQ-9 maintained positive identification of the enemy ship and conducted scans around it to ensure the strike force’s weapons would only target the chosen vessel, eliminating collateral damage to civilian ships in the area.

The strike force launched the

“From various locations around the world, Triton will execute its mission 24 hours per day, with little threat to Navy personnel,” Lee said.

These round-the-clock operations will bring enhanced MISR&T capabilities to 7th Fleet. VUP-19 plans to introduce this capability to more fleet areas around the globe, paving the way for future Navy unmanned systems.

VUP-19, based out of Naval Air Station Jacksonville, Florida, is currently operating from MCAS Iwakuni, Japan. The squadron conducts Maritime Patrol and Reconnaissance as well as theater outreach operations as part of a rotational deployment to the U.S. 7th Fleet AOO.

7th Fleet is the U.S. Navy’s largest forward-deployed numbered fleet, and routinely interacts and operates with Allies and partners in preserving a free and open Indo-Pacific region.

From 7th Fleet Public Affairs. 🦅



Members of 119th Wing participate in Victory Hooligan Exercise at the North Dakota Air National Guard Base in Fargo, North Dakota, on June 6, 2021.

U.S. Air Force photo by David Lipp

simulated munitions and maneuvered to remain outside the enemy’s simulated air defenses, effectively denying the enemy a chance to target friendly aircraft.

After the strike, the UAV employed its powerful full-motion video camera to complete a post-attack assessment of the strike, relayed the data to Strike Force NATO, and passed vital information to countries across the alliance via radio, chat and Link-16.

This exercise was the third iteration of Jackpot Hooligan. Jackpot Hooligan I was a synthetic training exercise wherein personnel from across the strike group, partner branches and multiple warfare commanders within the strike group integrated to increase their capability while limiting risk to personnel and assets. Jackpot Hooligan II was a first-of-its-kind maritime strike exercise that demonstrated the ability of the MQ-9 to integrate with naval forces to eliminate a target in an anti-surface warfare mission.

The experience gained from the recurring integration of the units of CSG-10 and the MQ-9 community enabled smooth integration during exercise Jackpot Hooligan III. It opened the door for more successful interoperability in the future.

George H.W. Bush is the flagship of CSG-10, which also comprises CVW-7, Destroyer Squadron (DESRON) 26, the Information Warfare Commander, and the Ticonderoga-class guided-missile cruiser USS Leyte Gulf (CG 55).

The ships of DESRON 26 within CSG-10 are the Arleigh Burke-class guided-missile destroyers USS Nitze (DDG 94), USS Farragut (DDG 99), USS Truxtun (DDG 103) and USS Delbert D. Black (DDG 119).

The squadrons of CVW-7 embarked aboard Bush are the “Sidewinders” of Strike Fighter Squadron (VFA) 86, the “Jolly Rogers” of VFA-103, the “Knighthawks” of VFA-136, the “Pukin Dogs” of VFA-143, the “Bluetails” of VAW-121, the “Patriots” of Electronic Attack Squadron (VAQ) 140, the “Nightdippers” of Helicopter Sea Combat Squadron (HSC) 5, and the “Grandmasters” of Helicopter Maritime Strike Squadron (HSM) 46.

For over 80 years, U.S. Naval Forces Europe-U.S. Naval Forces Africa (NAVEUR-NAVAF) has forged strategic relationships with allies and partners, leveraging a foundation of shared values to preserve security and stability.

Headquartered in Naples, Italy, NAVEUR-NAVAF operates U.S. naval forces in the U.S. European Command and U.S. Africa Command Areas of Responsibility. U.S. Sixth Fleet is permanently assigned to NAVEUR-NAVAF, and employs maritime forces through the full spectrum of joint and naval operations.

Written by Petty Officer 2nd Class Richard Rodgers, Carrier Strike Group 10 Public Affairs. 🦅



U.S. Navy photo by MCSN John Bellino

Sailors assigned to the San Antonio-class amphibious transport dock ship USS Arlington (LPD 24) remove chocks and chains from a CH-53K King Stallion helicopter during flight operations aboard Arlington, Feb. 14. The King Stallion is a heavy-lift cargo helicopter that underwent its second set of sea trials as the next evolution of the CH-53 series helicopters that have been in service since 1966.

CH-53K Completes Second Successful Sea Trial

PATUXENT RIVER, Md.—The CH-53K King Stallion completed five full days and nights of envelope expansion testing at sea in the Atlantic in March. The aircraft continued testing in a modern naval environment following initial successful sea trials in June 2020.

A diverse team of 105 personnel from Air Test and Evaluation Squadron (HX) 21, H-53 Heavy Lift Helicopters Program Office, Marine Heavy Helicopter Squadron (HMH) 461, Marine Operational Test and Evaluation Squadron (VMX) 1, and Sikorsky pilots, engineers, technicians and maintainers successfully accomplished this second set of sea trials for the CH-53K. Sea trial testing took place aboard the USS Arlington, a San Antonio-class amphibious transport dock (LPD24), operated by the U.S. Navy.

“The latest sea trials were another great success for the CH-53K program,” said Col. Kate Fleegeer, program manager. “Data analysis has shown a greater CH-53K LPD launch and recovery envelope than that of the CH-53E.”

Sea trials are a series of tests to evaluate the performance of the aircraft at sea. Tests performed during the event included: launch and recovery; rotor start and shutdown; blade fold; and shipboard compatibility testing—all in increasing wind speed and varying wind directions relative to the aircraft.

According to Sarah Naiva, Assistant Program Manager for

Test and Evaluation for the CH-53K, there are many variables potentially impacting a high-profile, high-risk event such as sea trials.

“We made the stars align for us with months of exhaustive planning and tireless collaboration,” Naiva said. “The joint team overcame numerous challenges, such as tumultuous seas, and their hard work and dedication will provide the fleet with greater flexibility to launch and recover the CH-53K in more severe weather conditions and mission scenarios where an LPD has limited steering.”

Ship compatibility testing includes towing the aircraft around the deck and in the hangar, performing maintenance while aboard the ship, ensuring the aircraft fits in all the locations it needs to around the ship deck and hangar and evaluating chain/tie-down procedures.

Ultimately, the results of these tests will enable the CH-53K to provide critical ship-to-shore heavy lift capability for future Marine Expeditionary Unit deployments,” Naiva said.

The Marine Corps continues to execute its transition from the CH-53E to the CH-53K and is on schedule to declare Full Operational Capability in FY2029.

Written by Victoria Falcon, Strategic Communications, H-53 Heavy Lift Helicopters Program Office. 🦅

HSC-22 Conducts Final Flight

NORFOLK, Va.—The “Sea Knights” of Helicopter Sea Combat Squadron (HSC) 22 conducted their final flight on Wednesday, Feb. 15, almost 16 years after their first flight in 2006.

As one of the squadrons located on the “seawall” of Naval Station Norfolk, HSC-22 operated the MH-60S helicopter, the Navy’s multi-mission, rotary-wing helicopter, as well as the MQ-8B/C “Fire Scout,” an unmanned aerial vehicle (UAV) used for intelligence, surveillance and reconnaissance in the maritime environment.

Cmdr. Aaron “Dempsey” Berger is the last of 14 commanding officers who have led the squadron to work toward their core mission areas.

“When this squadron was established we were handed a challenge of living up to the standards set by other

squadrons,” Berger said. “I believe we’ve risen above and set new standards for other squadrons to meet. I’ve challenged every Sailor as they depart for other commands to take their ‘get to yes’ mentality, work ethic and organizational standards onward so we, as a Naval Aviation Enterprise, can continue to support the National Defense Strategy.”

HSC-22 was the first East Coast HSC squadron to pioneer the integration of rotary UAVs into the existing MH-60S mission sets. For over five years, HSC-22 operated three separate aircraft models in the squadron with many members being qualified to operate or perform maintenance on all three platforms.

Designated as one of three East Coast expeditionary squadrons,

HSC-22 has deployed detachments of personnel and aircraft on nearly every class of ship the U.S. Navy currently operates worldwide.

One of the squadron’s core mission areas in recent years was working with the U.S. Coast Guard under the Joint Interagency Task Force South. This unique opportunity enabled the squadron to exercise the manned-unmanned teaming concept to facilitate the interdiction of illicit trafficking.

Berger closed by acknowledging that even though they have performed their final flight, the “Sea Knights” have proudly lived up to their motto of “Praeses, Armis, Gero:” “Protect, Fight, Support.”

Written by Commander, Naval Air Force Atlantic Public Affairs. 🇺🇸



Helicopter Sea Combat Squadron (HSC) 22 hosts their last flight during a Sundowning, Feb. 15.

U.S. Navy photo by MCSC Brian Brooks

New H-1 Mission Rehearsal Trainer Improves Capability, Readiness

PATUXENT RIVER, Md.—The successful delivery of the new prototype H-1 Mission Rehearsal Trainer (MRT) in February to Marine Corps Base Camp Pendleton, California, marks a significant milestone in Marine Light Helicopter Attack Squadron (HMLA) training. Once into production, the deliveries will provide the HMLA community fully transportable MRTs with a small footprint, allowing Marines to practice tactical combat skills, mission scenarios and maintain combat proficiency while deployed.

“The MRT will be an invaluable resource in maintaining warfighter readiness. The ability to train our pilots, regardless of location, is a game changer for the fleet,” said Col. Vasillios Pappas, Marine Corps Light/Attack Helicopters Program Office program manager.

This delivery is the result of close collaboration between the Naval Aviation Training Systems and Ranges Program Office, Naval Air Warfare Center Training Systems Division (NAWCTSD), and industry partners Veraxx Engineering Corporation, Northrop

Grumman, Varjo and Aechelon Technology, forming a team with the goal in mind of delivering a deployable trainer using state-of-the-art technology with the same capabilities as a much larger flight training device.

“The combined government and industry team has done a fantastic job capitalizing on new technologies; working together with the joint vision of providing the H-1 fleet the system they need to train while deployed at an affordable cost. They are setting a new standard for what can be done when we

Navy Delivers First Pilot Trainer to Deployed Carrier Airborne Early Warning Squadron



U.S. Navy photo

Cockpit view of an Aircrew Procedures Trainer device.

PATUXENT RIVER, Md.—The Naval Aviation Training Systems and Ranges Program Office recently delivered the first Aircrew Procedures Trainer (APT) device to Carrier Airborne Early Warning Squadron (VAW) 125 at Marine Corps Air Station (MCAS) Iwakuni, Japan.

This delivery is the first pilot trainer that will be embedded with a forward deployed unit within the VAW community, completing the Navy’s planned platform training system deliveries for deployed aircrew.

“The delivery of this training device to VAW-125 will revolutionize the way Navy forward-deployed forces train and enable them to win the high-end fight,” said Capt. Kevin McGee, program manager. “The team put in significant effort

to deliver this capability and ensure our forward-deployed forces are well equipped to maintain and improve their skills, even when deployed.”

The APT device provides deployed pilots realistic, high-fidelity simulator training in basic flight operations, navigation, emergency procedures, crew resource management, tactics, instrument procedures, carrier familiarization and other capabilities. Training time in the simulator minimizes risk by providing a safe environment in which pilots can both practice for muscle memory and learn new skills that can be applied in an operational environment.

The program office originally procured a trainer for Norfolk, Virginia. One month after the contract award, Airborne Command and Control and Logistics Wing signed and approved a requirement for a new device to be delivered to MCAS Iwakuni, Japan. Recognizing the urgent need, the Naval Air Warfare Center Training Systems Division team, along with industry partners, developed a creative solution to quickly meet both this new requirement and the current needs of the Fleet. Within two months of the announcement, the program office E-2 training systems team negotiated the new delivery location.

“As with many contracting actions, there were complications and challenges that had to be overcome for this device to be delivered, but with strong partnerships among all stakeholders this new high-fidelity trainer will help maintain the highest standards of readiness to meet Carrier Air Wing goals,” said Dave Adams, the program office E-2 training systems team lead.

From the Naval Aviation Training Systems and Ranges Program Office. 🐦



During a recent demonstration, Gary Kurtz, program executive officer for Air Anti-Submarine Warfare, Assault, and Special Mission Programs (PEO (A)), had the opportunity to “fly” the new H-1 Mission Rehearsal Trainer (MRT).



The H-1 Mission Rehearsal Trainer (MRT) on display during a March 14 demonstration at NAVAIR headquarters.

work together,” said Capt. Kevin McGee, Naval Aviation Training Systems and Ranges program manager.

H-1s are uniquely adept at distributed maritime operations to enhance expeditionary advanced base operations from a mix of traditional amphibious and non-traditional ships and shore-based sites. With this in mind, the team designed the MRT with a small footprint, no larger than 6-by-6-by-9-foot dimensions, and it is reconfigurable between a UH-1Y Venom and AH-1Z Viper. It can be assembled and disassembled in less than an hour and the components stored in ruggedized cases that are transportable by hand. The H-1 MRT is light enough that it can be transported anywhere and deployed as long as the infrastructure is in place.

The MRT features a Varjo XR-3 mixed reality headset as the primary visual system, providing the required visual acuity and fidelity necessary for advanced mission scenario and weapon systems training. The successful integration of the XR-3 demonstrated a paradigm shift in training capabilities through the utilization of a head mounted system as the primary display in a training device design for and utilized for advanced combat effectiveness

training. The head mounted display is also a natural fit for a deployable trainer, helping to greatly reduce the MRT space required aboard ship.

The team recently completed a multi-year effort to develop a government-owned aerodynamic model that meets or exceeds the proprietary model currently fielded in most H-1 flight training devices, which allowed the team the ability to complete the requirements for the MRT, increasing affordability. The new, government owned H-1 aerodynamic model was extensively validated with aircraft test data and pilot evaluations so that its flight characteristics are representative of the actual aircraft.

“The government team that developed the H-1 aerodynamic model spent a significant amount of time to ensure the flying qualities of the simulator matched the aircraft. The AH-1Z model was developed first, then most of the software was re-used during the development of the UH-1Y model. The team took advantage of the commonality between the AH-1Z and UH-1Y variants, increasing efficiency while developing aerodynamic models for both aircraft”, said Don Gaublomme, Manned Flight Simulator, H-1 Aero Model team lead.

The H-1 MRT team also achieved another first with the successful emulation/simulation of the H-1 Mission Computer (MC) which relieves the trainers of a dependence on long-lead, short-supply and often expensive aircraft Government Furnished Equipment (GFE). The emulated MC paves the way for possibilities to integrate this technology into all other existing H-1 training systems, freeing up assets needed by fleet aircraft.

Because the H-1 training team needed to research and build a prototype prior to entering production, they were able to use Other Transaction Authority (OTA) processes that allow a more flexible partnership between the government and industry teams to develop and integrate newer technologies and capabilities. From start to finish the OTA processes were streamlined and efficient in reducing overall project completion and ensure a close government and industry partnership necessary to meet the fleet’s needs.

Currently, the H-1 MRT is in production and on schedule to deliver to the fleet beginning in 2025.

From the Marine Corps Light/Attack Helicopters Program Office. 🚁

Sailors fight a simulated fire during a general quarters drill aboard Nimitz-class aircraft carrier USS Carl Vinson (CVN 70). Vinson is currently pierside in its homeport of San Diego, California.



U.S. Navy photo by MC3 Michael Mensah

USS Carl Vinson Completes Tailored Ship's Training Availability/Final Evaluation Problem

PACIFIC OCEAN—Nimitz-class aircraft carrier USS Carl Vinson (CVN 70) completed Tailored Ship's Training Availability/Final Evaluation Problem (TSTA/FEP) while out to sea in the 3rd Fleet area of operations, April 4.

TSTA/FEP is a multi-phase training assessment of the crew's operating proficiency.

"TSTA/FEP is a way for us to show our ability to train ourselves," said Lt. Cmdr. Kamille Pizarro, Vinson's training officer. "During deployment, we'll be out there without any outside help, so we have to make sure that we are staying proficient with the people we have."

As part of TSTA/FEP, embarked members of Afloat Training Group (ATG) assessed Vinson's ability to integrate with Carrier Strike Group (CSG) 1 and Carrier Air Wing (CVW) 2. ATG also evaluated Vinson's proficiency during damage control and warfighting evolutions to include shipboard firefighting, simulated man overboard and abandon ship drills, mass casualty evolutions, replenishments-at-sea, administrative reviews and flight operations.

"It was good to get the air wing involved in flight deck familiarization," said Master Chief Aviation Boatswain's Mate

Jacob Gardner, air department's training team lead. "They already knew the ship really well, and I was impressed by their knowledge."

During TSTA/FEP, ATG assessed the various training teams' ability to work together and handle situations as one multifaceted unit, coordinated by the Integrated Training Team (ITT).

Organizing and deconflicting the schedule was managed by the ITT coordinator.

"We were, in a sense, managing it [the training availability]," Pizarro said, "but really, it was our training team members on the deckplates alongside our Sailors that made everything happen."

There are 12 training teams aboard Vinson, and each one had a role to play during TSTA/FEP. Among the largest training teams are the air department training team, propulsion plant drill team and the damage control training team (DCTT). DCTT is responsible for training Vinson Sailors to fight casualties that threaten the safety and structural integrity of the ship, such as fires and flooding.

"Regardless of certification events or assessments, I always train my team exactly the same way," said Chief Damage Control-

man Jason Anderson, the DCTT coordinator. "That way, even when we are being assessed, it is already muscle memory. They do it exactly the way they have already been trained to, and they are going to be successful every time."

Vinson's completion of TSTA/FEP allows the ship and crew to complete The Basic Phase and transition to the Advanced/Integrated Phase.

"We really showcased what we are capable of and then some," Pizarro said. "The resilience and mental toughness of our Sailors is something that you have to see to believe. The way the ship comes together is indescribable."

The ship will next undergo Group Sail as the flagship for CSG-1 and alongside CVW-2 and Destroyer Squadron 1. Later this year, the Vinson Carrier Strike Group will conduct Composite Unit Training Exercise (COMPTUEX) as the final part of the Integrated Phase of the Optimized Fleet Response Plan.

The efficacy of Vinson's training teams, as proven by the crew's performance during TSTA/FEP, will set the foundation for the ship's continued success as they approach their upcoming deployment to the 7th Fleet area of operations.

Written by Petty Officer 2nd Class Jeffrey Kempton, USS Carl Vinson Public Affairs. 🦅



Capt. Craig Sicola, commanding officer of the aircraft carrier USS Nimitz (CVN 68), front seat, and Cmdr. Luke Edwards, commanding officer of the “Fighting Redcocks” of Strike Fighter Squadron (VFA) 22, make an arrested landing in an F/A-18F Super Hornet from VFA-22 marking the 350,000th time the carrier has landed a fixed-wing aircraft on its flight deck.

USS Nimitz Records 350,000th Arrested Landing

SOUTH CHINA SEA—USS Nimitz (CVN 68), the oldest-serving U.S. commissioned aircraft carrier in the world, successfully completed its 350,000th arrested aircraft landing recently while sailing in the South China Sea, a milestone nearly 48 years in the making.

Nimitz is the first active U.S. Navy carrier in the fleet to reach this milestone. USS Dwight D. Eisenhower (CVN 69) has the next highest total of arrested landings at 326,600.

Capt. Craig Sicola, commanding officer of Nimitz, and Cmdr. Luke Edwards, commanding officer of the “Fighting Redcocks” of Strike Fighter Squadron (VFA) 22, piloted the landing in an F/A-18F Super Hornet from VFA-22 on the morning of April 22.

“I am honored and humbled to land this historic milestone for our ship. I dedicate this landing to the countless naval aviators who have flown before me, and it is a privilege to further the proud tradition of service that this distinguished aircraft carrier embodies,” Sicola said. “To the shipyard maintenance teams who put in countless hours to prepare this warship for sea, to the thousands of dedicated Sailors on board who sacrifice for their country, and to the families back home who support us along the way—‘teamwork is a tradition’ on Nimitz and we could not have accomplished this mission without the steadfast commitment to this historic ship.”

As first in its class, Nimitz is the namesake for all Nimitz-class aircraft carriers in the fleet. Over the decades, tens of thousands of Sailors have embarked on Nimitz to fulfill missions around the globe. Since commissioning nearly 50 years ago, Nimitz has sailed 30 deployments and served in countless operations and missions.

Nimitz serves as the flagship of the Nimitz Carrier Strike Group (NIMCSG). The NIMCSG is currently on a regularly-scheduled deployment in the U.S. 7th Fleet area of operations.

“As we sail through the South China Sea, we celebrate this once in a lifetime achievement, 350,000 arrested landings, over a hundred years of innovation in the U.S. aircraft carrier, and the determination, sacrifice and winning spirit of all past and present naval aviators and our Sailors” said Rear Adm. Christopher

Sweeney, commander, Carrier Strike Group 11. “This landmark is a testament to the nation’s commitment to fly, sail and operate around the globe promoting peace and security just as ‘Old Salt-the Nimitz’ has done for the past 48 years.”

The 350,000th trap represents a significant moment in the history of the ship. Nimitz’s first arrested landing was conducted in 1975, the same year of the ship’s commissioning. Capt. Bryan Compton, Nimitz’s first commanding officer, made history by completing the first landing.

Although the ship has sailed in several oceans and has homeported in multiple locations, the constant throughout the decades has been the tenacity of the ship’s crew day in and day out—without which not a single landing could have been possible.

“Although aircraft are critical to our mission, the aviators and maintainers that fly and operate our aircraft are truly the reason for our success,” said Capt. Christopher Hurst, commander, Carrier Air Wing 17. “This milestone showcases our Sailors’ precision and operational excellence to execute hundreds of thousands of landings on Nimitz.”

Nimitz’s aircraft launch and recovery equipment (ALRE) division is responsible for operating and maintaining the ship’s catapults and arresting gear.

“We have been looking forward to achieving this milestone for a long time,” said Chief Aviation Boatswain’s Mate (Equipment) Robert Reed, leading chief petty officer of ALRE division. “The Sailors made all of this possible by manning our equipment and ensuring the proper execution of our mission. Their dedication and determination is inspiring, and I am proud to be a part of team Nimitz. This landing could not have been done without their commitment to the ship.”

Before celebrating the historic 350,000th arrested landing aboard Nimitz, flight deck personnel quickly got back to work. Sailors reset the arresting cable, taxied aircraft out of the landing area and reset the deck—there were still more aircraft to land.

From USS Nimitz (CVN 68) public affairs. 🇺🇸

NAVSUP FLCPS 'Team Whidbey' Performs First P-8 Hot Refuel



U.S. Navy photo by Chief Petty Officer Christopher Wooten

Sailors from NAVSUP Fleet Logistics Center Puget Sound perform the first-ever 'hot' refueling of a P-8 Poseidon aircraft at Naval Air Station Whidbey Island. The aircraft taxis to a 'hot pit' on the flight line where it is refueled while the engines continue to operate.

OAK HARBOR, Wash.—Sailors from Naval Supply Systems Command (NAVSUP) Fleet Logistics Center Puget Sound (FLCPS) performed the first-ever “hot” refueling of a P-8 Poseidon Aircraft Jan. 30 at Naval Air Station Whidbey Island (NASWI).

The Sailors, part of the NAVSUP FLC Puget Sound “Team Whidbey” aviation warehousing operation at NASWI, operate the Aircraft Direct Refueling Facility (ADRF), part of the air station’s flight line and taxiway system. Hot refueling involves fueling an aircraft on the flight line while its engines continue to operate.

“This new capability is a demonstration of our team’s innovation and tenacity. Through their preparation and hard work, this proof of concept expands NAVSUP FLC Puget Sound’s mission in providing ready and reliable logistics support to the warfighter,” said Capt. Josh

Elston, NAVSUP FLC Puget Sound commanding officer.

In a hot refueling evolution, planes and helicopters taxi through marked lanes to arrive at the fueling station, take on required fuel, then proceed back to the runway to take off and continue the mission. With in-ground fuel infrastructure set up next to the flight line, the hot refueling process is faster than using fuel trucks on the flight line apron.

“Hot-pit refueling reduces an aircraft’s downtime allowing it to return to mission at a faster rate, keeping aircraft where our nation needs them,” Elston said.

The P-8 Poseidon is a two-engine maritime patrol and reconnaissance aircraft derived from the Boeing 737. The P-8 aircraft refueled in the evolution are assigned to Patrol Squadron (VP) 47, “The Golden Swordsmen,” and used to conduct anti-submarine and anti-

surface warfare, intelligence, surveillance, reconnaissance and humanitarian response.

The hot refueling event was a culmination of several months of planning, preparation and rehearsal between the ADRF team and VP-47. Three Aviation Boatswain’s Mate-Fuel (ABF) Sailors from NAVSUP and five squadron Sailors from VP-47 teamed up to plan and coordinate delivery of 646 gallons of fuel as a proof of concept.

“There are challenges with any hot refueling operation,” said Chief Aviation Boatswain’s Mate-Fuel Christopher Wooten, NAVSUP FLC Puget Sound, “but our preparation and strong emphasis on flight line safety allowed for this

unique evolution to happen smoothly. The lessons we learned provide the team with the confidence and familiarization to replicate that success going forward.”

In the past, the hot refueling process at NASWI was generally reserved for smaller aircraft such as strike fighters and helicopters.

“This evolution has given ‘Team Whidbey’ an opportunity to prove ADRF versatility by servicing a larger maritime patrol aircraft and can open the door for expanded mission sets in the future,” Wooten said.

The refueling operation went as planned and successfully demonstrated that a P-8 could be hot refueled in times of contingency or crisis, lending greater flexibility to aviation support operations.

“I am proud of my team and that NAVSUP FLC Puget Sound was part this ground-breaking evolution,” Elston said.

Written by Cmdr. Curt Butler, Naval Supply Systems Command Public Affairs. 🇺🇸

Grampaw Pettibone

Gramps from Yesteryear: November-December 2008

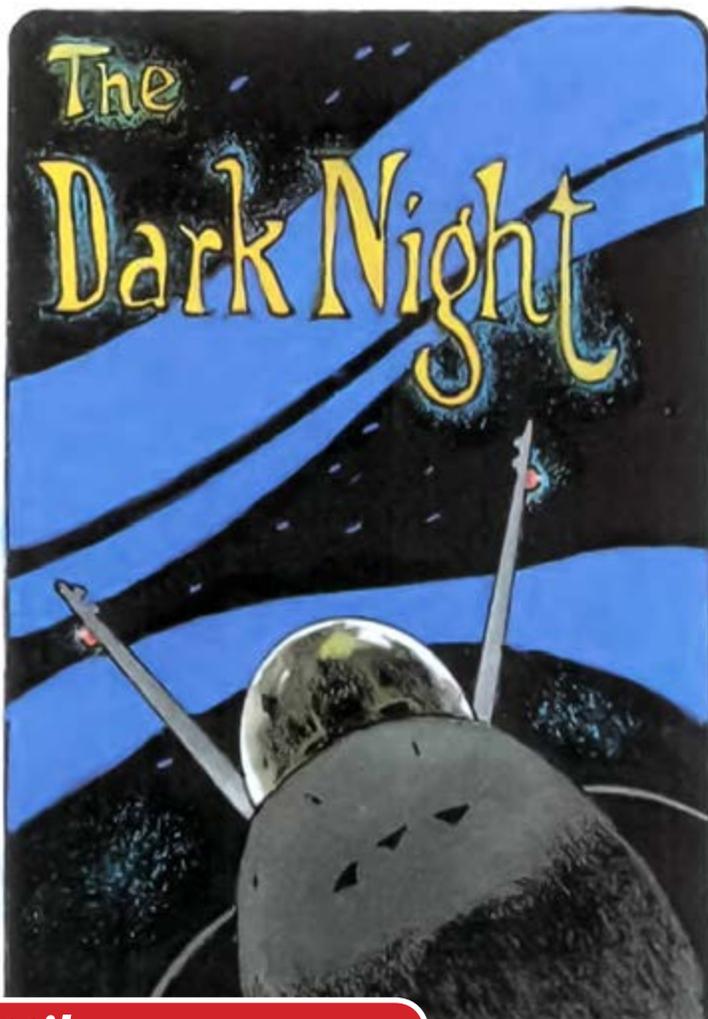
Illustration by 

Bad Air Day

Following a combat mission, a Hornet pilot set up for a night Case III recovery. After commencing the approach, the pilot began to feel as if he were not keeping up with the aircraft and the approach. As he closed on the ship, he began to realize that he was feeling classic symptoms of hypoxia. Flow to his mask was normal and he did not get any cautions associated with his On Board Oxygen Generating System (OBOGS). The conditions worsened as he commenced his final approach, and eventually became so incapacitating that he initiated an “own waveoff in the groove.”

After the go-around, the pilot activated his emergency seat pan oxygen but failed to secure OBOGS in accordance with NATOPS procedures. After a discussion with his squadron representative on the ship, they decided that he would fly a Mode I (autopilot controlled) approach. Although the subsequent approach and trap were uneventful, the pilot stated that he still had problems with simple tasks in the pattern.

Post flight analysis revealed a failed component in the OBOGS system was allowing contaminated air into the system. By not securing OBOGS when he activated his seat pan oxygen, the pilot continued to breathe contaminated air. ✈️



Grampaw Pettibone says...



This here deal is about three things: currency, communication and coordination. Now I've jawboned about it before, but obviously I need to do it again. Currency ain't just some pain in the patoot. Rules keep folks safe. Follow 'em! And it don't seem li Goldarnit, we got lucky on that one! This young'n realized all was not well in his gourd and thanks to his training, he was even able to suss out why.

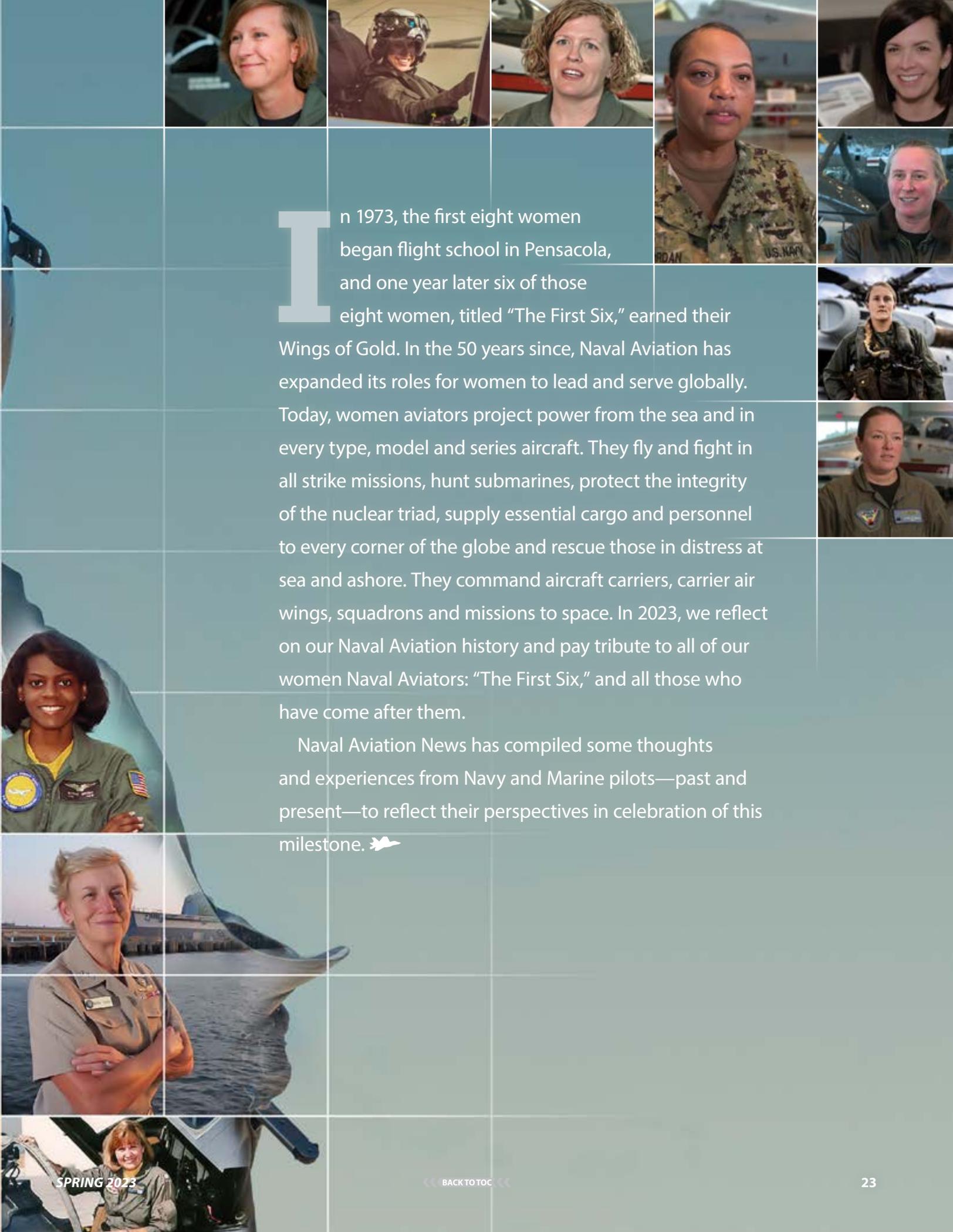
Back when Gramps was a fledgling, once we commenced aviatin' we didn't have anyone to help us but the Almighty his own self. These days, even the single seaters can get on the horn and get help from more people than I could count. This young nobbit shoulda' fessed up early on that he was feeling punky and they coulda' hooked him up to the magic the first time around and brought him aboard safely.

Bottom line kids, if you ain't feelin' right in the head or body, whether it is vertigo, hypoxia, or even a bit of intestinal distress, don't keep it a secret! Tell a fellow crewmember or give someone a shout on the radio, early like. Them controllers and LSOs can be a big help, but they can't be of much help if you keep your problems secret! And for you girls and boys that have the joy and honor of being a squadron rep in the tower or CATCC, make sure you are bein' the best helper you can, especially when dealing with an aviator that ain't operating at 100 percent. Woulda' been nice if someone had gone through the NATOPS procedures with our dizzy daredevil and reminded him to turn off the OBOGS. ✈️

CELEBRATING 50 YEARS OF WOMEN FLYING IN THE NAVY

Compiled by Rob Perry





In 1973, the first eight women began flight school in Pensacola, and one year later six of those eight women, titled “The First Six,” earned their Wings of Gold. In the 50 years since, Naval Aviation has expanded its roles for women to lead and serve globally. Today, women aviators project power from the sea and in every type, model and series aircraft. They fly and fight in all strike missions, hunt submarines, protect the integrity of the nuclear triad, supply essential cargo and personnel to every corner of the globe and rescue those in distress at sea and ashore. They command aircraft carriers, carrier air wings, squadrons and missions to space. In 2023, we reflect on our Naval Aviation history and pay tribute to all of our women Naval Aviators: “The First Six,” and all those who have come after them.

Naval Aviation News has compiled some thoughts and experiences from Navy and Marine pilots—past and present—to reflect their perspectives in celebration of this milestone. ✈️

CELEBRATING 50 YEARS OF WOMEN FLYING IN THE NAVY

Capt. Molly Boron, Navy

Current Naval Air Systems Command (NAVAIR) Inspector General; former program manager Aerial Target Systems Program Office; first female commander of P-8 Poseidon Squadron

“My favorite part of being a naval aviator is the uniqueness of flying in the Navy. The tie to the ocean that we have, which is unique for maritime patrol in that we are not on the carrier. We are land based, but we very much support all Naval Aviation in keeping them safe from undersea threats, as well as the intelligence, surveillance and reconnaissance that we provide.

“What women bring to Naval Aviation is diversity. The presence of women in Naval Aviation, or any male dominated community, brings a different perspective in how that community functions, how they think, ways they look at problems and challenges.

“If we’re only using half of the population to contribute toward a mission, a problem, a challenge, solving problems and challenges, we’re missing out. So I think bringing in 50 percent



U.S. Navy photo by Steven Kays

of the population, giving them the opportunity to partake, to participate in the problem, in the mission, in the duty of serving our country, what we gain can’t be quantified.” ✈️

Capt. Karly E. Boettcher, Marine Corps

Current CH-53E Super Stallion pilot, HMH-464



U.S. Marine Corps photo

“The highlight of my career was achieving Helicopter Aircraft Commander. Being responsible for an aircraft, its crew, and its passengers is not something I take lightly, but it’s the most rewarding experience I’ve ever had. A career highlight from a leadership standpoint was having the opportunity to speak at a Rolls Royce Convention for Women Engineers. It was eye opening to see all the experiences we had in common, and ways that we could inspire and lead each other even though we came from such different backgrounds.

“I am not a ‘female pilot,’ I am a Marine who happens to be an aviator. This profession is based on qualification, skills and the ability to perform. I bring the same potential, capability and skill as any of my peers, male or female, and I have progressed on par with my peers. Working in a male-dominated environment will inevitably create different experiences for women, many of which have personally shaped me as a leader.

“Naval Aviation is an integral part of our nation’s defense forces. I also believe that Marines who serve, particularly in aviation, experience a different level of responsibility than most people do. Not only do we need leaders like this in the Marine Corps; we also need mature individuals to become leaders in the civilian sector.” ✈️



Capt. Anneliese Satz, Marine Corps

Current member of Marine Fighter Attack Squadron (VMFA) 121, having served as Logistics Officer, Aviation Safety Officer, Quality Assurance Officer, Assistant Operations Officer; first female Marine to pilot the F-35B Lightning II

“Other than the pure joy of flying a fast and maneuverable aircraft, the best part of being an aviator is the opportunity to always get better. Becoming complacent will have negative consequences, so you always need to be learning or practicing your craft. Every pilot is in search of the perfect flight, knowing full well that no such thing exists. Although higher hours brings increased experience, no pilot is so good that they no longer have to strive to be better. Being in a community of like-minded individuals who are striving to be better pilots daily is also a great part of being an aviator. The ready room provides a sense of camaraderie found nowhere else. Although the people come from all over the country and have a diverse set of experiences, there is commonality found in the experiences of Naval Aviation.

“The aviation community needs the next generation of innovative and driven people to solve the problems we face today as well as those we will face in the future. You don’t need a degree in the STEM fields in order to be successful in

aviation. Rather, what it takes is an open and curious mind. Air Force and Navy fighter aviation are unique in that they are cultures that encourage and embrace brutal honesty. In the debrief after a flight there is no rank and no ego, only the desire to take away a few lessons learned and an improved skill set. I would recommend introducing yourself to as many new experiences as possible. Other than a few flights in general aviation, there is no single skill that will help you be a better naval aviator. Rather, an ability to adapt to new and novel challenges as well as the mental fortitude to accept criticism and improve from failure. The more people we have in our community who are interested in furthering the capabilities and strengths of Naval Aviation, the stronger we will be as a whole.” 🛩️



U.S. Marine Corps photos by Sgt. Ashley Phillips

CELEBRATING 50 YEARS OF WOMEN FLYING IN THE NAVY



U.S. Navy photo by Steven Keys

Lt. Cmdr. Maggie Doyle, Navy

Current Mission Control Station Military Installation Lead for the Unmanned Carrier Aviation Program Office; P-3 and P-8 Poseiden pilot; attended U.S Navy Test Pilot School; former test pilot with Air Test and Evaluation Squadron (VX) 20

“[To younger women thinking of a career as a Navy aviator] I think just do it, just get in there, just do your best, live your best life and, if you want to be an aviator, go and be an aviator. I think everything will just kind of fall in place. And then it’s kind of that trend, you see more and more women being naval aviators then there’s going to be more that follow because they can see you doing it and be like, ‘hey, I can achieve this too.’”

“I feel like the Navy just revolves around tradition with everything we do, but especially Naval Aviation. I think it just connects us to the past and where we come from. It just helps us go forward with a sense of purpose.” ✈️

Capt. Cricket Harper, Marine Corps

Current CH-53K King Stallion pilot with Marine Heavy Helicopter Squadron (HMH) 461 Airframes Officer in Charge

“With the current state of the Marine Corps aviation, there are minimal resources and few flight hours to go around. This makes career progression a challenge. The best way I have found to promote growth with minimal assets is to help those who are flying to learn through their experience, and to recognize the importance of working hard to be ready when it’s my turn in the seat. The failure or struggle of one pilot is the failure of the ready room, so focusing on that team effort maintains unit cohesion and helps everyone grow.

“I think that any community can improve by including differing viewpoints. We are all formed by

U.S. Marine Corps photo by Cpl. Adam Henke





different experiences and life events that shape our outlooks and decision-making processes. The inclusion of women, or any marginalized group, in the aviation community provides a unique viewpoint for problem solving, which will make the force stronger as a whole.

“Train your replacement’ is a common phrase used in Naval Aviation. The next generation are the replacements for the fleet. We must continue to inspire quality individuals to maintain and strengthen the force.” 🦅



U.S. Navy photo by Steven Keys

Cmdr. Shannon “Hoov” Hoover, Navy

Current Maritime Patrol and Reconnaissance Aircraft Program Office Special Mission Aircraft Integrated Product Team Lead; P-3 Pilot; attended U.S. Navy Test Pilot School; former test pilot with Air Test and Evaluation Squadron (VX) 20

“Years ago, I was airborne, doing a night proficiency flight in a T-2 Buckeye over the Patuxent River, Maryland, at about 38,000 feet with one of my dear friends, another pilot, and we ended up experiencing explosive decompression and losing the canopy. It gets really loud in an airplane at 30,000 feet when you don’t have a canopy and glass shards under the visor and in your eyes. So just bringing the airplane home, landing it safely and then being greeted on the runway by the maintainers who had sent us flying that night, who were genuinely concerned about our safety and glad to see us back. It ended up being a really defining moment for a multitude of reasons. Everybody corrals around you to just say, ‘Hey, what happened? How can we prevent this from happening again? Did we do everything right? Could we have done anything differently? How can we ensure this never happens again?’ The Navy had my back, my command had my back, our back collectively, and we were just going to figure it out and march along smartly when we

had it figured out. In Naval Aviation, you spend 99 percent of your time with an expectation that everything is going to go according to plan. And then you prepare for that 1 percent or it’s not going to go according to plan.

“One challenge was I flew very pregnant with my first daughter. As soon as I was able to and medically cleared to when I found out I was pregnant, I continued to do operational tests in the P-8 at VX-1. My command was on board with it. And I get to say to my little girl, ‘You got a pretty impressive logbook.’ And she likes to say she was a pilot in mommy’s belly when she was a baby. I get to say, for many years from now, to my daughter that we’ve spent some time in the airplane together.

“I’m proud of the trailblazers that set the path in motion for me to be here, for us to be here now, I’m grateful. I think we just have to continue to forge ahead and continue to redefine what it looks like to be a naval aviator.” 🦅

CELEBRATING 50 YEARS OF WOMEN FLYING IN THE NAVY



U.S. Marine Corps photo by Cpl. Sean Potter

Capt. Karah "Gobbles" Jaeb, Marine Corps

Current Sections Leader and Night Operations Instructor, CH-53K pilot with HMH-466

"Women bring themselves, their intelligence, their problem solving, their leadership, their motivation, their personality. Some of the best Marines I know are women. Some of the best mechanics I know are women. Some of the best pilots I know are women. Some of the best leaders I know are women. At any given point, women make up about 10 percent of my squadron. What does that tell you? That the women in our community are exceptional. We bring ourselves and by doing so we enhance our community.

"As a community we have made enormous strides forward regarding supporting women and mothers. Unfortunately, biases, subconscious or not, color how each of us interacts with the world. Everyone projects their personal situation, history, and background onto those around them. For many their mothers or spouses. I believe strongly in celebrating our forward progress. But we need to acknowledge that cultural change takes time, and we have a ways to go." 🦋



U.S. Marine photo taken by Cpl. Autumn S. Bobby

Capt. Whitley "Warhammer" Noel, Marine Corps

Current Flight Leadership Standardization Evaluator and CH-53E Super Stallion pilot, HMH-64, 2nd Marine Air Wing (MAW)

"I have a passion for teaching in and out of the cockpit. The ultimate goal is to train the next generation of Marine aviators to be better than my generation.

"Throughout my career, I have faced many challenges, some seeming insurmountable. The best advice that I can give to any Marine is to find a way to get to yes. I accepted a ground contract to have the honor of becoming a Marine officer, even though I've always known that I wanted to also be a pilot. I found a way to get to yes when I was at The Basic School and a competitive flight contract was being offered to my company. I fought for that spot and subsequently earned my wings.

"When our nation calls, we need to be ready. Eventually, my generation of naval aviators will be ready to retire. To whom can we pass the torch? Marine aviation provides so many unique opportunities to grow personally and professionally. It is the greatest decision that I ever made." 🦋



“The people are always the best part of being an aviator. Flying a crew-based aircraft means that every flight is a team effort. The crew chiefs, the other copilots and aircraft commanders, it’s the people that make it both satisfying and fun.”

Capt. Brianna Sirks, Marine Corps

Current Marine Air Group (MAG) 16 HQ Staff Secretary, MV-22 Osprey pilot, 3rd Marine Aircraft Wing

“I’m freshly to the fleet, but my single biggest career highlight was still the first time I flew the MV-22. Before stepping into the actual cockpit for the first time, we amass some 30 hours in the MV-22 simulators, but it doesn’t prepare you for the enormity of sitting behind the controls in the actual cockpit. The aircraft is enormous, and you can feel that as you lift off and then transition to airplane mode. The first time I came off the ground and to a 20-foot hover felt like I was lifting the entire world.

“The people are always the best part of being an aviator. Flying a crew-based aircraft means that every flight is a team

effort. The crew chiefs, the other copilots and aircraft commanders, it’s the people that make it both satisfying and fun. Furthermore, as an assault support aircraft you’re a significant part in any mission to insert troops or cargo. Knowing that you’re the one in charge of safely transporting the men and women that are on the ground protecting our country is very awe inspiring.

“As a woman, I’m frequently in the minority of my squadrons, and at times have also been the only woman in the squadron. From a pure mentorship view, the younger

enlisted women need someone that they feel comfortable coming to when they have concerns and someone to look up to, to show that it’s not only men that can run the world. Beyond this, I’ve noticed that women frequently come up with different solutions to problems that arise because we offer a different perspective than what the other members of the room have.

“Naval Aviation is one of the most important foundations that our military stands on. Whether it’s the jets and Cobras laying down fires to allow our troops to infiltrate an enemy zone, or the Ospreys and CH-53s bringing our men and women into that zone, we shape the battlespace. We need more men and women to be a part of the fight.” 🦅

U.S. Marine Corps photo by Cpl. Sean Potter



CELEBRATING 50 YEARS OF WOMEN FLYING IN THE NAVY

Capt. Reilly Sullivan, Marine Corps

Current MV-22 Osprey pilot; VMM-261, MAG-26 Pilot Training Officer/Assistant Training Officer

“Last summer, I was able to fly in the Chicago Air and Water Show as a demonstration aircraft commander and was able to share my passion with other aviation enthusiasts. On

deployments, I’ve been able to see some beautiful parts of the world: flying across the Mediterranean or along the coast of Sicily are memories I’ll cherish.

“The best part of being an aviator is working with highly competent individuals and personalities to accomplish often daunting and difficult missions. The success of accomplishing these missions is made even better when it’s done working

with the younger pilots and aircrew, who I get to see progress and grow as aviators and Marine officers.

“All people can bring a unique perspective based on their strengths, weaknesses and upbringing to their work community. A successful team uses these different perspectives within the group to accomplish a goal. In some cases, women can provide a unique perspective.

“Do not let self-doubt or others deter you from your goals. There will be hurdles and obstacles in your life that you will have to face, but if you surround yourself with people who push you to do better and be better—people who believe in you—great things can happen.” ✈️



From left, Cpl. Jordan Trantham, Capt. Reilly Sullivan and Capt. Victoria Friday pose for a photo.

U.S. Marine Corps photo

Cmdr. Jocelyn K. Liberg, Navy

Current Time Sensitive Strike deputy program manager with the Direct and Time Sensitive Strike Weapons Program Office; F/A-18 Hornet pilot; U.S. Naval Test Pilot School graduate; former test pilot with VX-31

“I’m a third generation Navy attack aviator. I’m a second-generation Aerospace Engineering Duty Officer. My whole family in some capacity has been in service since 1948.

“A moment that stands out the most to me is one that happened at the very beginning of my career. I was an ensign and had just started in flight school. I went home and home at that time meant Key West, Florida, and my dad was stationed there. We ended up getting a chance to fly together. So, my first flight in my military logbook is a flight with my dad, and that also is his last flight as a Naval Aviator. Getting to fly together, and like,



U.S. Navy photo by Steven Kays



“We honor the generations that came before us, that brought about the changes that allow us to be here where we are now.”

do the high fives and pass the torch was kind of the highlight of my career even 16 years later.

“The best part of being a naval aviator is being part of a community that has such intensely, intentional culture. You walk into a Naval Aviation ready room, and you know where you are. And if you don’t, someone’s going to tell you. The other thing is my kids think I’m cool. I know that that’s short-lived and won’t last forever, but right now they think what I do is pretty awesome.

“Women, like every group, come with a diversity of experience. We can’t afford to solve our problems as a monoculture; we must include people of all backgrounds, of all genders, races, ethnicities,

socioeconomic backgrounds, all of it. If we’re going to solve the kinds of problems that we’re facing right now, there is no room for exclusion of any group, whether we’re talking about men or women or people of a different background.

“We’re celebrating that women have been a part of the obligation for 50 years now. We’re also celebrating that women have been allowed to fly in combat for the past 30 years. I was in kindergarten when that change came about in the Navy. It’s exciting to think about the changes that are going to come in the next 30, the next 50, the next hundred years. We honor the generations that came before us, that brought about the changes that allow us to be here where we are now. But it’s so exciting to think about the changes we haven’t even imagined yet that my generation and the generation that follows will bring about for Naval Aviation.” 🇺🇸



Capt. Rebecca “Princess” Schmidt, Marine Corps

Current Aviation Safety Officer, CH-53E pilot with Marine Heavy Helicopter Training Squadron (HMHT) 302

“The crew concept of our aircraft is my favorite aspect of aviation. I do think anyone can be taught to fly, but not everyone is a good team player. The team is not just the pilots and aircrew, but it is also the maintainers and administrative personnel that allow us to do our job. Each member of the flight crew is critically important, and the coordination and environment created within the aircraft will either set the flight up for success or failure. Our crew chiefs are fantastic, and the coordination required to land in a confined area or pick up an external load is made possible by trust between the pilots in the cockpit and the aircrew in the cabin.

“Women bring different



Capt. Anasitasia Ioane (left), and Capt. Rebecca “Princess” Schmidt pose for a photo.

U.S. Marine Corps photo

CELEBRATING 50 YEARS OF WOMEN FLYING IN THE NAVY

perspectives and experiences that frame their communication and leadership styles. Having battled back through an endometriosis surgery and two postpartum recoveries, I come to the table with the experience of how to navigate the medical system and continue flying, as well as how to balance the unique demands of motherhood with aviation. These experiences have caused me to enter and exit the cockpit three times, which inherently means that I have had to put in the effort to regain my skillset with each comeback. Each time I do this, I find myself mentoring a new group of women. The example that is brought to aviation matters because now these women realize that it is possible. It may not look the same as

their male counterparts if they choose to take care of their health and grow their family, but they will realize they are capable of more than they thought.

“Aviation is a unique career field that women are not routinely exposed to. There are skill sets and experiences to be gained from the next generation of women that will benefit the Navy and Marine Corps if they choose to make a career out of aviation, or it will benefit the civilian sector if they choose to take their skills and experience elsewhere. Either way, the perspective, experience, and leadership that the next generation of women will bring to the table will enhance the commands that they are a part of in and out of the cockpit.” ✈️

Capt. Holly Shoger, Navy

Current program manager for the Naval Undergraduate Flight Training Systems Program Office; E-2D pilot; former VX-20 test pilot

“The best part [of being a naval aviator is] you get to go fly. It’s something civilians don’t get to do. You’re entrusted with these aircraft that cost millions and millions of dollars. It’s a lot of accountability and responsibility to have. It’s unique. You don’t get that everywhere.

“Women bring a different viewpoint. We all think differently. And I think it’s a piece of diversity that we bring that if it were just an all-male workforce, it wouldn’t be that way. And I’ve seen the workforce shift and evolve over time since I’ve come in as we have more females in the fleet. And I think it’s a good thing. I think we have a healthier environment or balanced viewpoint out there rather than maybe a single mindset.” ✈️



U.S. Navy photo by Steven Kays



“Naval aviators are parents, brothers, sisters, mothers and fathers. But we’re also very dedicated to what we do, where we work. We work long hours and we put in a lot of time in service of our country.”



U.S. Navy photo by Steven Kays

Cmdr. Sarah Abbott, Navy

Current deputy program manager for the F/A-18 & EA-18G Program Office; F-18 pilot; former test pilot with VX-9

“I started off at the U.S. Naval Academy and I was studying aerospace engineering. I think I was always excited about being an astronaut, if I could, or getting into aviation. I was around aviation as a child, and as a teenager I worked at a private airport. But as I progressed through my studies at the Naval Academy and got a chance to get out in the fleet and see what it was like, I just wanted to be out there. It looked exciting and it seemed like the way I really wanted to serve.

“I enjoy above anything the people that I serve with. I’m motivated by the people I serve with. You get up every day to do something with everybody around you, but of course, the aviation part of it is getting to fly a really cool aircraft and getting to do very challenging things and push yourself and really strive to be the best you can be at a very hard job.

“I think women bring talent. Everybody who does this

job needs to be good at doing this job and they need to put the work in. And you’re only here if you can do your job and do your job well. It’s a high-risk organization and everybody needs to be on their game to do it. But I think women represent talent that’s half the population. If you don’t have a representative number of women, if your organization doesn’t look like the population, we’re missing out on a lot of talent and we’re not giving everyone that opportunity they deserve.

“Naval aviators are parents, brothers, sisters, mothers and fathers. But we’re also very dedicated to what we do, where we work. We work long hours and we put in a lot of time in service of our country. And we are professionals. Every aspect of our job is professional. It’s about learning. It’s about being the best we can be in an aircraft.” 

Lakehurst Lab Brings Environmental



Engineer Chris Snyder checks a piece of equipment during vibration testing at the NAWCAD Lakehurst Environmental Test lab March 7.

Challenges Inside for Equipment Testing

By Adam Hochron

Even before encountering an adversary, the warfighter's equipment is exposed to the impacts of the environment, ranging from the extremes of the desert heat to extreme cold of the frozen arctic tundra to the sunny, salty waters in the middle of the ocean. However, thanks to the Environmental Test Lab (ETL) at Naval Air Warfare Center Aircraft Division Lakehurst, New Jersey (NAWCAD LKE), these situations can be simulated to ensure mission readiness and address potential issues.

“The biggest thing we can offer is all of our capabilities. We can perform full environmental testing, proof load testing, as well as custom testing and consultation,” lab manager Jonathan Myers said, noting that his team can help with not only developing prototypes of different items, but also testing the finished products before and even after they are sent to the fleet. “We’re basically a tool for programs along the entire process of development.”

The ETL has conducted testing for Naval Air Systems Command (NAVAIR) Program Offices, the Army, Air Force, Royal Australian Air Force, Federal Aviation Administration, and is open to supporting new customers.

“We are providing a valuable product and I think our numbers show it,” Myers said, noting that billable hours for the lab increased from 80 in 2018 to more than 11,000 in 2023, all of which is done with just a four-person team.

“Not only do programs save on travel costs, but it is more convenient as well. The ability to simply ‘walk down the hall’ is immeasurable. Customers can participate in testing and witness firsthand any issues that arise. They can then work directly with us to design and implement solutions in real time and immediately resume testing,” Myers said.

Myers said addressing issues faster allows for a quicker turnaround, saving time and money. By providing their services faster than outside labs, it can lead to more business for his team.

“That’s the biggest problem we see. Programs come here, and they say, ‘I didn’t know you existed,’” Myers said. “So, the more people that come through, the better.”

This year, the ETL added a Multi-Function Climactic Chamber (MFCC) to its environmental testing abilities. The chamber can reach temperatures between minus 95 F and 355 F. In addition, the machine can replicate 100 percent relative humidity, rainfall of up to 12 inches per hour, salt fog and solar lighting with >1600 W/m² irradiance (the International Space Station receives about 1,500 W/m² irradiance from the sun in space).

The lab also has three other climatic chambers, one altitude chamber, two vibration tables, a drip test machine, a certified lightweight shock test machine, and three proof load frames, which allow for load testing, drop testing, and reliability cycle testing.

Chris Snyder, environmental test engineer, first came to the lab on a three-month rotation that he extended to six months before joining full-time three years ago because he found the work so fulfilling.

“It was a lot of hands-on experience, which I enjoyed. The other thing I really enjoyed was you got to see the whole program lifecycle, from an initial design to testing, finding issues to troubleshoot, giving them possible solutions and implementing those solutions, then testing them again with a better overall product.”

More equipment is coming over the next two years, including a new vibration table with supporting equipment, as well as two new proof load machines.

“We are receiving a lot of investment in the lab. We’re slowly but surely trying to expand as much as we can to support our customers,” Myers said.

Adam Hochron is a communications specialist with Naval Air Warfare Center Aircraft Division, Lakehurst, New Jersey. 🗺️

U.S. Navy photo

Daddy's Home

Coordinated Effort Results in
Long-Deserved Final Rest for
WWII Naval Aviator

By Gene Hughes



Before shipping out aboard USS Hornet (CV 12) in the summer of 1944, Frederick Schrader purchased teddy bears for daughters Judy and Barbara, knowing his deployment would prevent him from spending Christmas with his family. The Navy Commander, Naval Academy graduate and aviator, husband and father of two would not return—until nearly 80 years later.

On Oct. 13, 1944, Schrader, then commander of Carrier Air Group (CVG) 11, was lost when his F6F-5 Hellcat fighter, belonging to Fighting Squadron (VF) 11, was shot down during an attack on Toko Seaplane Base on Formosa (now Taiwan). The Hornet was one of 17 carriers taking part in the Battle of Formosa, Oct. 12-15. According to his wingman, there was no sign of a parachute or that Schrader had been able to exit the aircraft before it crashed. Because he crashed in enemy territory, no rescue attempt was possible.

“I had just had my second birthday on Sept. 18 and, at that point, had not seen him for several months prior because he was at sea,” Barbara said. “Our family consisted of my mother, Lucile, and my older sister, Judith and I. We were living in Long Beach, California, at that time. When my mother received the telegram on Oct. 30 that his plane had been shot down and he was presumed dead. She gave us the bears.”

Born in Carbondale, Illinois, on March 12, 1913,

Schrader grew up in Lawrenceville, Illinois, participating in sports and met a young girl named Lucile. While attending the United States Naval Academy, the 6-foot-3-inch “Fritz” was a member of the rowing crew, played football and boxed.



Photo courtesy of National Archives via Steve Ginter

VF-11 Grumman F6F-5 Hellcats getting ready to launch off USS Hornet (CV-12) with VT-11 and VB-11 TBMs and SB2Cs start engines for a raid on Nasnsei Shoto on 10 October 1944.



Photo courtesy of Naval History and Heritage Command

Fighter Squadron Eleven (VF-11) pilots are briefed in their ready room, probably during USS Hornet's (CV 12) cruise through the South China Sea. Note mascot dog, wearing VF-11's "sundowners" emblem, held by pilot in left foreground.

U.S. Navy photo illustration by Fred Fliegler; imagery provided by U.S. Navy and Naval History and Heritage Command (NHHC)

“Following her husband’s loss, Lucile kept his memory alive by telling her daughters about him and their time together.”

According to the Academy’s 1935 yearbook, “with the fairer sex he gets along fine, although his real attraction is back in Illinois.” He would propose to Lucile, a replica of his class ring serving as the engagement ring. Schrader would graduate 35th in a class of 442.

Commissioned in June of 1935, he served in a variety of billets on USS New Mexico; Naval Air Station (NAS) Pensacola, Florida; USS Ranger (CV 4); USS Idaho; and NAS Alameda, California. His squadrons included Fighter Squadron (VF) 4, Observation Squadron (VO) 3, commander of Scouting Squadron (VS) 2D12, and Fighter Squadron (VF) 3 before becoming the commander of CVG-11.

As CAG, Schrader commanded 40 Hellcats, 25 Helldivers and 18 Avengers, for a total 83 aircraft.

The War Diary of the Hornet contains the following entry for Oct. 13, 1944:

“Strikes continue on the morning of the 13th against substantially the same objectives on Formosa. The same airfields were hit again, and more planes destroyed. The destruction of the facilities at Heito and Reigaryo was continued. ... the day was marred by the loss of the Air Group Commander Frederick Schrader by (anti-aircraft) fire. He was shot down while leading a strafing attack and his loss was a serious one since his leadership and work with the Air Group had been outstanding.”

The night before his final flight, Schrader spoke with one of his Helldiver fliers, Lt. j.g. Edwin “Big Ed” H. Wilson.

“Just last night he said, ‘tomorrow is my eldest daughter’s birthday and I am out to get her a good present,’” Wilson later wrote in his war journal. “Tough, as he was a pretty good gent.”

Keeping the Memory Alive

Following her husband’s loss, Lucile kept his memory alive by telling her daughters about him and their time together.

“My mother described my father very lovingly,” Barbara said. “She had wonderful memories of him from when they met in high school and their youth fellowship meetings in Lawrenceville. She described him as very tall, a good and loving husband and father, and very good to her when he was on shore. They had a very good, but short life together.”

Barbara described occasionally watching 8mm home movies, bits of which now survive on a CD. She knew who he was, that he graduated from the Naval Academy, and learned of him listening to family stories.

“As an early teenager, I used to climb up into our attic storage area and go through the box of his things—pictures, books, letters, but by then we did not have much as most had been destroyed (including photos of Schrader and his daughters) in a basement sewer flood years before,” she said.

The family moved back and forth between California and Illinois twice between 1944 and 1947, when Lucile made the move to Illinois a permanent one. Barbara said that at the time of her father’s death, it



Photo courtesy of Barbara Cavanaugh

Midshipman Frederick Schrader escorts Lucile Coleman during June Week festivities at the United States Naval Academy.



Photo courtesy of Barbara Canavan

Judith and Barbara Schrader, daughters of Cmdr. Frederick Schrader.

was expected that she would place the girls with their grandparents in Illinois and make a new life for herself.

“Instead, she chose to work and support my sister and me, and I love her so much for that,” she said. “My mother never remarried, and she wore and treasured her Naval Academy engagement ring her entire life.”

However, Schrader’s story had not ended with his death. His body was recovered by Japanese forces

in the area, taken to a local headquarters and inspected for possible intelligence value. He was buried as an “unknown” in Formosa. After the war, the American Graves Registration Service was tasked with investigating and recovering missing American personnel. They searched Formosa for a year, but none of the remains recovered could be positively identified as Schrader.

Eventually, all the remains were repatriated to the National Memorial Cemetery of the Pacific in Hawaii in 1949, and that same year, Schrader was declared non-recoverable.

Years passed. Judy and Barbara grew up, and their father’s service and love of country grew with them. Judy married a Navy officer who taught at the Naval Academy early in

his career, while Barbara wed an Air Force officer. Each had children of their own, and there are several grandchildren and great-grandchildren.

Lucile died in 1984, never knowing that her beloved Fritz was actually buried in Hawaii in 1949. Her ashes were placed in the ocean off the coast of Hawaii, the closest the family could get to where they thought his remains still were—Formosa.

In 2009, both Judy and Barbara’s families began

Cmdr. Frederick R. Schrader, Commander of Carrier Air Group (CAG) 11, USS Hornet (CV 12), was flying this Grumman F6F-5 Hellcat. Bu. No. 58192, when he was shot down while leading a strike on Formosa on Oct. 13, 1944. After graduating from the U.S. Naval Academy in 1935 and after going through flight training, he was designated a naval aviator in 1940. This Hellcat was not necessarily his assigned aircraft as CAG but he was flying it when he was lost while strafing a Japanese seaplane base. His call sign would have been “Ginger 8,” using the aircraft’s assigned squadron number.

The Sundowner Squadron Insignia

From “VF-11/111 ‘Sundowners’ 1942-95,” by Barrett Tillman with Henk van der Lugt, Osprey, 2010.

“Sundowner” was a term from the age of sail, alluding to a hard-working sailor or captain who toiled until the day was done. In World War II, the term had obvious Pacific Theatre implications, as VF-11’s primary duty was downing Japanese “suns.” 🌊



Sundowner insignia and aircraft profile illustrations by Tom Tullis, courtesy of Osprey Publications

Barbara Canavan,
daughter of Cmdr.
Frederick Schrader,
displays 'Teddy,' the
stuffed bear her father
gave to her before
departing aboard USS
Hornet (CV 12).



a search for information about Schrader, using the internet and available records. They were able to put together a timeline of his life, including duty assignments, ships he served on and his promotions.

Soon others would also be looking into the life and location of Cmdr. Frederick Schrader.

Research and Discovery

In 2018, USNA graduate and Naval Aviator Matt Robins, himself the product of a Navy family, began conducting research into the fate of a naval relative. His father and maternal grandfather had both served as carrier-based naval aviators, and both had connections to Schrader—his grandfather during World War II (including Formosa, where Schrader was lost), and his father during Vietnam. Ironically, both served aboard USS Hornet.

As a carrier-based Naval Flight Officer, Robins served in an E-2C Hawkeye squadron attached to Carrier Air Wing Eleven (CVW 11) which traces its lineage back to CVG-11, Schrader's last command.

Researching his own family eventually led Robins to an article about ongoing efforts to identify World War II MIAs, and the approximately 8,000 sets of unidentified remains—due to lack of forensic analysis—believed to be American service members buried in national cemeteries around the globe.

Through the Freedom of Information Act and assistance of private researchers, Robins was able to obtain case files from ARGIS documenting their recovery of fallen Americans from sites around Taiwan following World War II.

“The first of these case files that I began researching—designated Unknown X-136—documented the recovery of remains believed to be a U.S. Navy fighter pilot shot down over Taiwan in October 1944,” he said. “This file contained numerous intriguing details such as the date (13 October 1944), location (Toko Seaplane Base), circumstances (shot down by anti-aircraft fire), and, perhaps most importantly, the passage that the unknown aviator was ‘believed to be an Annapolis graduate.’”

The Annapolis detail greatly reduced the number of possible candidates—during World War II, only four USNA graduates were lost over Formosa. The details reminded Robins of a passage from a book he had recently read. Pulling it from the shelf he confirmed the passage—how on Oct. 13, 1944 while attacking a seaplane base on Formosa, an F6F Hellcat from CVG-11 was shot down by anti-aircraft fire.

The pilot was listed as Cmdr. Frederick Rutherford Schrader, USNA Class of 1935.

Establishing an identity for Unknown X-136 was promising, but Robins knew that to build

support for the case, he would have to create a list of American aviation casualties over and around Taiwan during the war, which had never been done, but would strengthen the circumstantial case that Unknown X-136 was indeed Schrader.

It was during the compilation that Robins encountered researchers and filmmakers George Retelas and Tim Hampton, descendants of World War II servicemen who had, interestingly, served on CVG-11 at the same time as Schrader. All three were also volunteers at the USS Hornet Museum in Alameda, California.

“My wife’s great-uncle flew with Schrader while onboard the Hornet,” said Hampton, CVG-11 historian. “He was shot down as well and declared missing in action. His aircraft went down over the open ocean with little chance of recovery. Helping bring Schrader home has been the opportunity to help bring closure to my family as well.”

“Helping solve this MIA case has been an unbelievable experience,” Retelas said. “When I first set out to do this documentary, I never knew it could lead to something so special. Serving those who have served was my chance to give back. I know my grandfather is smiling from above.”

For the next four years Robins, Retelas and Hampton examined historical records, contacted the Schrader family, and provided the Defense POW/MIA Accounting Agency (DPAA) with forensic details of the case. Eventually, it was announced that the remains designated Unknown X-136 would be exhumed for formal identification.

“Research by DPAA staff in 2022 concluded that X-136 could be potentially linked to two casualties from WWII, Cmdr. Schrader and another pilot, Ensign Henry Ptacek,” said Dr. Gregory Berg, lab case manager for DPAA’s scientific analysis directorate. “The X-136 remains were exhumed from NMCP on Aug. 11, 2022, and assigned the accession number CIL 2022-193.

According to Berg, the remains were somewhat poorly preserved, but they were in good enough condition to allow DPAA scientists to estimate sex, age, stature and note antemortem (before death) anomalies and perimortem trauma (at the time of death). So, overall, they were harder to work with than our average case, but they were not so poorly preserved that we could not affect an ID.”

“The recovery and return of Cmdr. Frederick Schrader’s remains is a testament to the solemn vow our nation makes to bring all of our heroes home,” said Adm. John Aquilino, Commander, U.S.

IndoPacific Command. “As a fellow naval aviator, I am humbled by his sacrifice and honored to play a small role in Cmdr. Schrader’s return to the United States.”

“Every identification is special to DPAA because it’s the ultimate fulfillment of our nation’s sacred obligation to the missing service member and his family,” said DPAA Director Kelly McKeague. “In the case of Commander Schrader, research by a former naval flight officer led DPAA to pursue disinterment of a set of remains buried as a World War II Unknown. His identification is especially gratifying for his 80-year old daughter and a 99-year old chief petty officer for whom Commander Schrader was the air group commander.”

The Lone Survivor

Today, Radioman 2nd Class Richard Miralles, now living in Sacramento, California, is the lone survivor of Schrader’s CVG-11.

“It feels kinda lonely,” he said. “I’m very happy to hear our Air Group Commander has been found, and I want to say thank you to Admiral Aquilino for

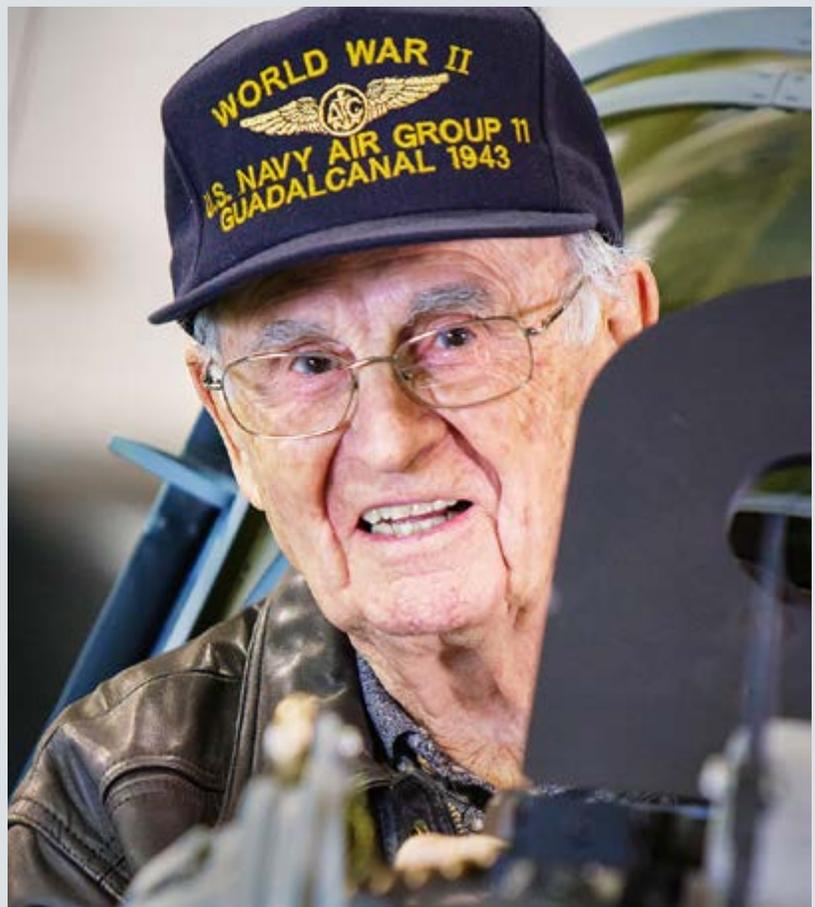


Photo courtesy of George Retelas

Radioman 2nd Class Richard Miralles, the lone survivor of Cmdr. Frederick Schrader’s Carrier Air Group 11 aboard USS Hornet (CV 12), sits in an SBD Dauntless.

“On Oct. 3, 2022, Barbara received word from the Naval Casualty Office that DPAA had formally identified the X-136 remains as being those of her father.”



U.S. Air Force photo by Staff Sgt. David Owsianka

U.S. Navy Sailors assigned to Navy Region Hawaii and the Defense POW/MIA Accounting Agency (DPAA) move a casket toward a hearse during an interment at the National Memorial Cemetery of the Pacific, Honolulu, Hawaii, April 13, 2023.



A U.S. Navy Sailor assigned to Navy Region Hawaii and the Defense POW/MIA Accounting Agency (DPAA) plays taps during an interment ceremony.

all the help he gave us. Without him, we wouldn't have been able to do this in time.”

On Oct. 3, 2022, Barbara received word from the Naval Casualty Office that DPAA had formally identified the X-136 remains as being those of her father.

“I got strong hints before I knew for sure, because I had been working and sharing information with the CVG-11 Research Group from the USS Hornet for a couple of years. I knew we had zeroed in on a very possible match. When I attended the DPAA Family Member Update in Denver on Sept. 10, I was told that Unknown X-136, whose remains had been buried at the Punchbowl in 1949, had been disinterred for comparison with my father's records. From the many smiles, everyone seemed fairly sure that there would be a positive outcome.

“It was a time of very high elation and yet great sadness as my sister was not getting to share this wonderful news with me,” she said.

Judy had slipped into a coma and was not expected to survive. She died Oct. 1, never knowing her father had been found. As the newly designated next of kin for the family, Barbara waited for the official call from Navy Casualty, which came two days later. The family visit was scheduled for Jan. 11, 2023.

“Chief Yeoman DeShannon Beaty and our Casualty Assistance Calls Officer Cmdr. Jon Harbough came to our house and spent a good deal of time going through and completing all of the official paperwork and answering all of our many questions,” Barbara said. “We are very thankful for all the help and friendship Chief Beaty and DPAA provided during this process.”

A Military Legacy Continues

Schrader's great-grandson, Lt. Josh Patton, who is Judy's oldest grandson and the son of a retired commander, is also a USNA graduate and naval aviator, currently serving aboard USS John C. Stennis (CVN 74).

“I have been aware of my great grandfather and his story since I was very young,” he said. “However, I did not understand the magnitude of his service until I was in high school and began contemplating

the Naval Academy. The only reason I had ever even heard of the Naval Academy was because of him. I will never forget walking into Memorial Hall on a Navy Football recruiting trip and seeing his name. It was an incredible experience.

“It feels like closure and feels like his story is finally settled. I am also incredibly sad as my grandmother Judy passed away only weeks before they confirmed his remains. I know that would have been an incredible amount of closure for her that she never got. He died on her birthday when she was a little girl and that was very hard on her. She was able to carry his story to us and I am so thankful that I can be a part of his legacy.”

Patton will soon separate from active duty June 1, but will continue his service with Training Squadron (VT) 35 Squadron Augment Unit as a reservist.

“I have always felt proud, but also very sad that I was never able to meet him,” he said.

Final Rest

Ever since her father’s loss, Barbara’s bear, “Teddy,” has remained a beloved reminder of her father.

“Teddy has been a treasured part of my life—

he represented my father to me, was a part of my childhood dreams of finding my father, and a comfort when I was sad or hurting,” she said. “For years he wore a bow tie of my father’s until it disintegrated from wear and old age. He made it through all of my own family’s military moves.”

As the family gathered in Hawaii at the National Memorial Cemetery of the Pacific on April 13, Schrader, at long last, received his final resting place. Where once there was a number, there is a name. Teddy, adorned with the gold wings of a naval aviator, was also there, a symbol of the undying love between a daughter and a father once lost, but now found.

“I am very pleased to hear they were able to identify Cmdr. Schrader,” Miralles said. “It makes me feel good that they can put his name on there now instead of ‘unknown’ and give him a proper burial.”

Retelas’ documentary film, “Eleven,” features 11 WWII veterans from Air Group 11 as they share stories with the grandson of one of their comrade-in-arms. It can be found at: <https://www.ElevenTheMovie.com/>

Gene Hughes is a member of the public affairs office for Navy Personnel Command. 🐻



Barbara Canavan, daughter of U.S. Navy Cmdr. Frederick Schrader, is given a U.S. flag during an interment ceremony by Rear Adm. Paula Dunn, Vice Chief of Information.

U.S. Air Force photo by Staff Sgt. David Owsianka



THE NAVY'S NEW HEARING PROTECTION:

Made-to-Measure for Every Sailor

By Brittany Dickerson

U.S. Navy photo illustration by Fred Flerlage; photographic images provided by MC3 Hannah Kantner

The roar of fighter jets taking off from an aircraft carrier is one of the most iconic sounds of the United States Navy. But for the brave men and women who work in these high-decibel environments day in and day out, the noise can take a devastating toll on their hearing.

“There is no other injury more reported than hearing damage,” according to Lt. Cmdr. Kyle Shepard, a resident audiologist at the Naval Air Warfare Center Aircraft Division (NAWCAD). Tinnitus and hearing loss is our military’s first and second most-reported disability.”

Aircraft and equipment are loud. Consider the blare of an aircraft carrier’s engine room or flight deck, where the deafening noise of equipment and aircraft blend together. For our military, it is an endless soundtrack that plays along to their four or more years of service. Despite the severity of the problem, however, finding a solution has proven challenging.

Hearing damage happens gradually over time, meaning that service members can cope with hearing loss that happens slowly across the span of their career until one day they cannot.

“Noise-induced hearing loss is a readiness issue affecting at least 10 percent of our military,” Shepard said. “We’ve seen aviators and aircrew who just don’t notice the small amount of hearing loss until one day it adds up, and they struggle to hear and communicate from the cockpit or maintain situational awareness on the flight line or battlefield.”

The current standard for hearing

protection in the Navy is one-size-fits-all foam earplugs and earmuffs, which can be ill-fitting, uncomfortable and sometimes ineffective. Education surrounding hearing protection also varies, and the use of these devices can interfere with aircrew members’ ability to hear and communicate with each other. Overall, there is significant variability in how hearing protection is used on today’s flight line. A choice solution is custom hearing protection, but the Navy’s current process delivering custom hearing protection is difficult and cumbersome.

“Custom hearing protection has been around for some time,” Shepard said. “But the current process by which we take physical impressions today—injecting and extracting silicone putty into a sailor’s ear, sending impressions off to a manufacturer for weeks or months of production, and getting them back to a sailor somewhere out in the fleet—is a system ripe for modernization, and that’s what we’ve tackled at NAWCAD.”

The modernized process involves digital scanners and 3D printers. What’s more, the Navy has validated that it could eventually have the option to fit any sailor for custom hearing protection the day they fit for their first uniform.

“Audiologists across the Navy agree the best hearing protection is one a sailor

is most comfortable using, fits and is appropriate for the environment they operate in,” Shepard said. “We’ve seen that custom earplugs can provide improved consistency and sometimes better attenuation than standard earplugs because they conform to ear anatomy—they’re much easier to insert with less fit variability too.”

“Several large medical commands are already 3D-printing biomedical material like prosthetics,” Shepard said. “The only missing pieces are a digital ear scanner and imaging software which will enable our independent manufacturing of custom hearing protection in the military.”

The scanner is commercial and features a small probe that inserts into a sailor’s ear to capture a digital image of the ear canal. This offers sailors a faster, safer and more comfortable fitting experience compared to the current method of custom fittings. The current process involves injecting silicone into the ear canal, waiting for it to set and then carefully extracting the molds. This is slow, tedious, and sometimes painful or dangerous process, especially if a sailor has a small or uncommonly shaped ear canal, sensitive ears or other anatomical challenges.

“I’ve taken more than 1,000 physical impressions and I’ve still had close calls with aircrew who have had extremely



U.S. Navy photos by Todd Frantom



Lt. Cmdr. Kyle Shepard, resident audiologist and researcher at the Naval Air Warfare Center Aircraft Division, describes a simple process for the Navy to print custom ear plugs for its sailors using a digital ear scanner and 3D printer to Navy Surgeon General Rear Adm. Bruce Gillingham at Naval Air Station Patuxent River, Maryland.

uncomfortable fittings—one that required a shot of lidocaine to finish the extraction because I just couldn't see unique anatomical contraindications deep in the ear canal with our legacy equipment," Shepard said.

In addition, silicone impressions require a certified audiologist, and only major commands and medical centers employ these professionals. Since the scanner is much safer and less invasive, the training is simpler and requires less experience.

"Most importantly, digital scans are safer, but they also cut custom hearing protection's production by at least 50 percent," he said. "With legacy silicone impressions, we're not making the ear plug—we're making the mold we mail away for a manufacturer to use in production. It can take two to six months to receive back the custom plugs at some of our international duty stations."

After Shepard and his team at NAW-

CAD proved the new digital scanning tech for creating custom hearing protection, they started testing it out in real-world situations. The feedback was overwhelmingly positive. Sailors appreciated the faster, more comfortable and more accurate fitting experience, and were more likely to use their custom earplugs on a regular basis. In fact, partner services including the Army and Air Force are already interested in scaling custom hearing protection.

The military's move toward 3D printing offers yet another solution with custom hearing protection, which is what most manufacturers use for production anyways. Many Navy commands could print the plugs out immediately in-house, especially at commands where they have already integrated 3D printing in medicine. Today naval dentists print various prosthetics for sailors at sea and ashore.

Shepard and NAWCAD's aeromedical



Lt. Cmdr. Kyle Shepard, resident audiologist and researcher at the Naval Air Warfare Center Aircraft Division, demonstrates audio testing in an anechoic chamber at NAS Patuxent River, Maryland.

engineers are ready to support any command interested in getting in touch to see how they can start offering custom hearing protection to their warfighters today.

"Let's start getting after defense's most reported injury. Where are our commands with the largest need? Our major training and medical commands already have the printers that we will eventually use for independent manufacturing of custom hearing protection. Reach out to me so we can get these scanners and training out there and expand the care our service members need."

Interested commands should reach out to Lt. Cmdr. Kyle Shepard, NAWCAD's head of Helmet Systems and Auditory Performance, at kyle.h.shepard.mil@us.navy.mil.

Brittany Dickerson is a public affairs specialist with Naval Air Warfare Center Aircraft Division. 🐦



An HH-60W Jolly Green II lands at Grand Bay Bombing and Gunnery Range during a deployment readiness exercise at Moody Air Force Base, Georgia, Feb. 23.

FRCE Selected as Depot Source of Repair for New Air Force Combat Rescue Helicopter

By Naval Air Systems Command; and Commander, Fleet Readiness Centers

The Air Force recently selected Fleet Readiness Center East (FRCE) as the stateside depot source of repair (DSOR) for the HH-60W Jolly Green II, the air service's new combat rescue platform. FRCE will conduct all helicopter airframe programmed depot maintenance for Jolly Green II aircraft located within the continental United States, which represents about 70 percent of the platform's total expected workload.

"I'm honored the Air Force has selected FRC East to support a core platform that performs critical search and rescue operations," said FRCE Commanding Officer Capt. James M. Belmont. "Since the depot began operations in 1943, we have been a vital asset to national defense, and new workload like the Jolly Green II will allow us to continue to support our warfighters well into the future.

"It's exciting to see the future of FRC East come into focus as we add capabilities that will enable us to support military aviation readiness for years to come," Belmont said. "FRC East is a pillar of the eastern North Carolina community and economy, and the success our team has seen in securing new workload on emerging platforms only helps cement our repu-

tation as the premier vertical-lift depot within the Department of Defense."

Matt McCann, director of the Business Development Division within FRCE's Central Coordination Department, said the first Jolly Green II is scheduled to arrive at FRCE for maintenance in fiscal year 2027. Once programmed maintenance operations for the aircraft have ramped up to full capacity, the projected workload represents at least 210,000 direct labor hours annually—the equivalent of more than 100 full-time positions. Adding that number of jobs to the depot's workforce would have a substantial impact on the local economy, McCann said.





“The HH-60W represents new workload above and beyond what FRC East currently maintains, rather than being a replacement for existing aircraft workload that is scheduled to sundown in the future,” McCann said. “There is a wide range of possibilities on what the final direct labor hours will look like annually, but this additional workload stands to bring a significant financial benefit to the area.”

The dual-piloted, multi-engine vertical takeoff and landing aircraft is the Air Force’s replacement for the HH-60G Pave Hawk and is used to perform critical combat search and rescue and personnel recovery operations, said Del Bennett, capability establishment lead within the Capability Management Branch of FRCE’s Central Coordination Department.

The Jolly Green combat rescue platform has a long and storied history, running from 1967-2008. From the Vietnam War through the Global War on Terror, the aircraft was deployed in high-stakes scenarios to rescue individuals in dangerous or remote areas that weren’t accessible by ground transportation. The HH-3E Jolly Green Giant and HH-53 Super Jolly Green Giant—and later the HH-60G Pave Hawk—were used to rescue downed Airmen and other service members in hostile or denied territory, day or night, in adverse weather conditions, with threats ranging from terrorist to chemical, biological, radiological or nuclear. The aircraft were called upon to conduct humanitarian missions, civil search and rescue, and medical evacuations. The Jolly Greens and Pave Hawk were welcome sights to those awaiting their arrival, and the Jolly Green II will fulfill these functions with improved communication, navigation and defense systems, along with an upgrade in weapon systems.

FRCE’s work on the platform will include disassembly, inspec-

tion, repair, assembly, ground check and flight testing, Bennett said. Commercial repair operations will provide the same services for HH-60W aircraft located outside the continental United States.

In order to get FRCE and its workforce ready to support the new platform, a Depot Maintenance Activation Working Group will begin operation soon. The working group will focus on ensuring the capabilities needed to support the platform are in place, and artisans are trained and qualified to perform required tasks prior to the first Jolly Green II’s arrival, Bennett said.

“We have started laying the groundwork to be able to support the platform with regard to infrastructure, logistics and maintenance,” he said. “There’s a lot of effort that goes into making sure FRC East can hit the ground running when it’s time to induct that first airframe. It’s important that everything is in place so we can turn these aircraft around and get them back on mission as quickly and efficiently as possible, while still ensuring the best possible quality product for the warfighter.”

FRCE’s commitment to quality played a large part in the depot securing the new HH-60W workload, Bennett added.

“FRC East has a proven track record of providing service to the Air Force with the UH-1N platform, and they’ve been very happy with the performance of our production line,” he said. “They know we’re reliable. They know we produce a quality product. They know we can deliver on time. They know we’re constantly in pursuit of process improvements to ensure the quality of the product stays high while we strive to reduce cycle time.”

From Naval Air Systems Command; and Commander, Fleet Readiness Centers. ✈️



An HH-60W Jolly Green II helicopter from the 66th Rescue Squadron taxis at Nellis Air Force Base, Nevada, Feb. 8.



U.S. Navy photo by Rachel Melchor

The first-of-its-kind reconfigured U.S. Navy EA-18G Growler for the Royal Australian Air Force (RAAF).

FRCSW Ally Support Strengthens Royal Australian Air Force

Fleet Readiness Center Southwest (FRCSW) successfully completed a first-of-its-kind reconfiguration of a U.S. Navy EA-18G Growler for the Royal Australian Air Force (RAAF).

By Janina Lamoglia

The aircraft was flown to FRCSW in March 2020 for long-term storage and the command took on this effort, demonstrating its ability to excel at collaborating across international lines with foreign partners. Ehren Terbeek, F/A-18 Legacy & E/F Program Manager, was part of the command leadership that received the workload at the time of induction in August 2022 and he oversaw the team taking on this challenge. The RAAF looked to Nellis Air Force Base in Nevada to procure the aircraft for reconfiguration. However, after an internal issue delayed the Air Force's timeline for delivery, the RAAF looked elsewhere for an aircraft. FRCSW took the stage in providing a replacement Growler from one of the command's detachments.

Myra Balina, FRCSW Production Support Logistics Lead, knew the extensive research required to adapt the aircraft to fit the Australian configuration.

"Managing this kind of special rework was not the norm," Balina said.

This was the first time the command took on the challenge of reconfiguring an aircraft to fit the needs of a foreign military ally.

Balina and her team conducted extensive research on the maintenance evolution, differences in modification kits and aircraft avionics in order to correctly configure software requirements. Balina was also a pivotal player in the logistics of this operation, filling in the gaps between the planner and supply department, including managing the procurement of tooling, support material and equipment from start to finish. There were many crossovers between her routine workload and this assigned mission. However, she and her team researched what was missing in their knowledge base to successfully bridge the gap between the U.S. Navy's configurations to the RAAF. One of the challenges they were given was receiving failed parts to work with and another challenge took the form of material shortages. Despite that, Balina said, "the successful collaboration efforts and communication from the artisans on the floor are what allowed us to fill in the gaps and kept us on schedule. We also identified any issues up front and communicated that to the Foreign Military Sales (FMS) and Program Management Activity (PMA) teams."

Neil Belmont, FRCSW Planner and Estimator, was another key player that

specialized in reworking the aircraft. While his main roles include tracking time schedules, cost performance and timeline reports, as well as providing technical directives, his experience with crash-and-burn damaged aircraft as well as reconfiguration of aircraft contributed to the success of this accomplishment.

The completion of the reconfiguration in less time than anticipated and doing so while staying within budget was a "big part of the success." Belmont said. As previously mentioned, this was not a typical workload the command, artisans and the logistics team received. Belmont described the extensive research and "leveling up" that was collectively necessary in order to meet the goals of this mission.

In January, FRCSW successfully completed and sold the aircraft to Australia on its first flight. Aside from being the first reconstitution sold, this mission was beneficial to FRCSW by expanding the command's knowledge in the business of working with entities outside of the U.S. Navy. Furthermore, this mission boosted the capability of our warfighter, as well as the capability of the ally's military.

Janina Lamoglia is a communications specialist with Fleet Readiness Center Southwest. 🦅



An MH-139A Grey Wolf lifts off for a mission Aug. 17 at Eglin Air Force Base, Florida.

FRCE Secures Future Components Workload for Air Force MH-139A Grey Wolf

Fleet Readiness Center East (FRCE) recently secured designation as the Depot Source of Repair (DSOR) for 81 major structural and dynamic components of the Air Force MH-139A Grey Wolf helicopter, the planned replacement for the UH-1N Huey. FRCE performs maintenance, repair and overhaul of the legacy UH-1N platform at its North Carolina Global TransPark detachment in Kinston. Current projections place the start date for the new work in fiscal year 2028.

“I’m proud that our counterparts at the Air Force have recognized the caliber of service FRCE East provides and have chosen to expand our relationship by selecting our depot to support the MH-139A through sustainment of many of the platform’s components,” said FRCE Commanding Officer Capt. James M. Belmont. “Our workforce has long maintained a stellar reputation for producing the best quality products for our nation’s military aviators and securing workload on emerging platforms like the Grey Wolf will allow us to continue that tradition for many years to come.”

“Our selection as the DSOR for these components is a direct reflection of the ability and commitment of the FRCE workforce,” Belmont said. “Our people continue to be our greatest asset as we shape the future of the depot.”

The planned workload includes major components like gearboxes, rotor blades, hubs, actuators and engines, said Del Bennett, capability establishment lead within the Capability Management Branch of FRCE’s Central Coordination Department. The Air Force plans to use the dual-piloted, multi-mission aircraft to support security for intercontinental ballistic missile sites, and transport U.S. government and visiting officials and security forces, he said.

The Air Force has not yet fielded the Grey Wolf platform, which is currently in the engineering and manufacturing development phase of the defense acquisition process and is undergoing military unit testing. Bennett said current data does not provide final projections on the effort required to sustain the platform; however, depot officials are planning for a substantial workload.

“This DSOR provides FRCE East with the lion’s share of the major structural and dynamic component workload,” he said. “Because

the platform is new, we don’t yet have projections on the final number of labor hours the component work will involve, but we know that it will be significant.”

Depot Activation Maintenance Working Groups will begin operations this summer in order to ensure the FRCE’s facilities and workforce are prepared when the first Grey Wolf components arrive. Bennett said the lengthy process guarantees that all logistical elements are in place to support sustainment of the new workload, including technical data from the manufacturer; required facilities and infrastructure; necessary support and test equipment; supply support; and artisan training on maintenance, repair and overhaul processes.

With the maintenance work that FRCE’s UH-1N line does at the Global TransPark detachment, pursuing the workload related to the legacy aircraft’s replacement was a natural fit, Bennett said. The depot’s long history of providing quality products for military aviators helped secure the nod.

“The Air Force Program Office selected FRCE East based on our substantial knowledge and experience in the maintenance, repair and overhaul of helicopter, tilt-rotor and fixed-wing airframes and components, including engines, drive shafts, rotor heads, fuel pumps and electronics,” Bennett said. “We are the Department of Defense Vertical Lift Center of Excellence, and that shows in the breadth and depth of understanding our artisans, engineers, logisticians and support staff have of military aircraft.”

“The selection process is pretty competitive when you’re considering these major aircraft platforms for all their workload, and the Air Force has been very happy with the service that we have provided on the UH-1N platform,” he said. “Their support of FRCE East and the work we’ve done on those aircraft is now flowing down through other programs, and it gives us a competitive edge.”

FRCE Secures Future C-130 Workload, Plans for 200-Plus New Jobs

Fleet Readiness Center East (FRCE) will expand its support of military aviators when the depot takes on maintenance, repair and overhaul duties for Navy and Marine Corps C/KC-130J Super Hercules and C/KC-130T Hercules aircraft. Navy officials announced March 17 that FRCE will serve as the designated repair point for the platform. The depot could begin the new workload as soon as the end of fiscal year 2026.

“Supporting sustainment of our Navy and Marine Corps C-130 aircraft will allow FRC East to do what we do best: provide service to the fleet with the best quality products, on time, at the best cost,” said FRCE Commanding Officer Capt. James M. Belmont. “The C-130 plays an important role in fleet operations and, through our support of the platform, FRC East will be able to directly impact mission readiness and

results. It’s an honor to be entrusted with this responsibility.

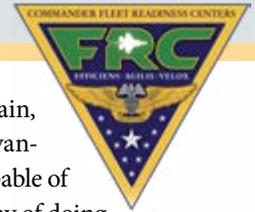
“The skill and professionalism of our workforce is widely recognized throughout the defense industrial base, and weighs heavily when leaders are making decisions like these,” Belmont said. “Our workforce has always been the key to our success and will be as we continue to shape the future of FRC East.”

The Marine Corps uses the KC-130J Super Hercules for multiple mission types

including refueling, personnel and cargo transport, tactical medical evacuation, imagery reconnaissance and close air support. The medium-lift, fixed-wing aircraft provides long-range, land-based tactical and logistic support to fleet operating forces. The platform achieved initial operational capability in 2005. Naval and Marine Corps Reserve elements employ the legacy C-130T Hercules for tactical passenger and cargo airlift and the KC-130T Hercules for tactical refueling and other assault support.



U.S. Marine Corps photo by Cpl. Adam Henke



Once the program at FRCE is fully operational, work on the C-130 platform is planned to provide the depot with an estimated 250,000-plus labor hours. That translates into approximately 200 full-time positions, said Stephen Barrow, director of the Central Coordination and Business Operations departments at FRCE.

These outcomes are a testament to the quality of work performed by FRCE artisans, engineers and support staff, as well as the organization's drive to secure new workload and ensure future operations, said Matt McCann, director of the Business Development Division within the Central Coordination Department.

"There are also intangible benefits to bringing the C-130 workload to FRCE East," he said. "For example, we have the Naval Air Systems Command C-130 Fleet Support Team co-located here at Cherry Point,

which will allow faster and more convenient access for engineering and logistics support and development of the aircraft. And bringing the Navy-Marine Corps C-130 workload back under the Navy-Marine Corps umbrella is also a positive."

Securing the future workload also demonstrates leadership's foresight in creating a sustainable business model that will keep FRCE's workforce busy well into the future. Current Defense Department projections show a plan to keep the C/KC-130J in service past 2050.

"Our selection as the depot source of repair for these platforms demonstrates our ability to strategically position the depot in a way that best utilizes our skilled workforce to support to the fleet for decades to come," McCann said. "We have a cross-disciplinary team from across the facility that has come together to put our best foot

forward, time and time again, and use every strategic advantage to show that we're capable of getting ahead of the old way of doing business."

Barrow agreed that capitalizing on strengths has allowed FRCE to capture the trust and confidence of the military aviation enterprise, which has generated positive yields for both the depot and its customers.

"We are always thinking strategically and creatively on how to best support our customers and our workforce," he explained. "Whether finding new and innovative ways to gain efficiencies, or partnering with the state of North Carolina and the Global TransPark in Kinston to find solutions to space inhibitors—as we have in the past—our focus will always be taking care of the warfighter." 🛩️



U.S. Marines with Marine Aerial Refueler Transport Squadron 252 (VMGR-252) fly a KC-130J Super Hercules in formation over Virginia.

FRC Southeast Innovates to Support Fleet Need for Air Combat Training Aircraft

Since Fleet Readiness Center Southeast (FRCSE) inducted its first F-5N Tiger II, the depot has forged forward despite the challenges associated with standing up a new product line.

Sheet metal apprentice Evan Durlfing, assigned to Fleet Readiness Center Southeast's F-5 Production Line, works to replace the upper canopy longeron (UCL) on an F-5N Tiger II. UCLs are the main structural components of the airframe, providing rigidity to the aircraft around the cockpit.



U.S. Navy photos by Tolete Jackson



Artisans assigned to Fleet Readiness Center Southeast's F-5 Production Line prepare to remove the wing of an F-5N Tiger II aircraft for inspection.

The F-5s were initially purchased in the 1970s by the Air Force and then sold through foreign military sales to Switzerland. In 2002, the Department of Defense decided to repatriate many of these aircraft back to the Navy. The F-5 is a twin-engine tactical fighter aircraft that provides air-to-air combat training for Navy and Marine Corps pilots. Its reliability and low operating costs result in savings to the Navy each year in maintenance and unnecessary wear on current strike fighter aircraft like the F/A-18 Super Hornet and F-35 Lightning II without sacrificing essential pilot training in a formidable aircraft.

In 2019, the depot-level maintenance and repair of the F-5 airframe transitioned from the original equipment manufacturer to organic support, and FRCSE was designated as the U.S. Navy depot source of repair. Currently, FRCSE performs Phased Depot Maintenance (PDM). This process includes replacing certain high time structural and system components and thoroughly inspecting the aircraft in known corrosion and metal fatigue areas. Artisans use various means, including non-destructive inspection (NDI)

methods to look for corrosion and/or cracks caused by wear and stress fatigue.

“The maintenance we conduct at the depot extends the service life of the aircraft, as each phase of the PDM addresses time-limited component inspections and replacements at certain flight hours,” said Cris Baldwin, FRCSE’s F-5 Production Line director.

Planned structural component replacements include the upper cockpit longeron (UCL) and the vertical stabilizer (V-stab). The UCLs, approximately 6-foot beams that run down either side of the cockpit, are the main structural components of the airframe and provide fundamental rigidity to the aircraft around the cockpit. The V-stab, another critical component, is the static part of the vertical tail that stabilizes and balances the aircraft in yaw. These load-bearing sections of the aircraft are replaced at regular intervals, but before recent process innovations, the work was not able to be done concurrently.

“One of the innovative time reduction efforts was the idea to perform the UCL and V stab work concurrently,” said Lt. Cmdr. Ryan McNulty, FRCSE’s F-5 Production Line military director. “Originally, these were done separately because each is a critical structural element. With one or the other removed, there is a risk that the airframe could be permanently damaged due to twisting. Fortunately, we have an in-house engineering support team and a dynamic manufacturing division that provided sound, innovative thinking in an effort to conduct these efforts concurrently.”

Concurrent work would significantly reduce the time needed to return the aircraft back to adversary operations, but the team faced risks associated with the stability of the aircraft. To conduct the UCL and V stab repairs simultaneously, the airframe had to be adequately supported. FRCSE’s engineering and manufacturing teams designed robust shoring to sit beneath the aircraft and prevent twisting, which illustrates the level of ongoing innovation at the depot.

“The F-5 engineering team devised and performed a test to determine if and how much the airframe would flex when the UCL and V stab work was performed at the same time,” McNulty said. “The results proved that by using the shoring, the two repairs could be performed together.”

While the concurrent work for UCLs and V stabs are the most beneficial of the F-5 production line efforts to reduce the time the aircraft is at the depot, they are far from the only ones. There have been more than 45 innovative solutions proposed to help



U.S. Navy photos by Tolete Jackson

Artisans assigned to Fleet Readiness Center Southeast’s F-5 Production Line prepare to remove the wing of an F-5N Tiger II for inspection.



turn aircraft around faster. More than half of those solutions came from artisans on the production floor, and include V stab work stands, flight control rigging tool test kits, and a mobile, hand-held, E-drill® system to remove hard metal fasteners more than 20 times faster than twist drills. These technological advancements should provide increased productivity as the team continues to get more adept.

“The F-5 team is an amazing group of professionals with many challenges to overcome to meet the Fleet’s demand,” Baldwin said. “Over the last year, I have seen incredible improvements, and I know this line will soon become the best-performing product line at FRCSE. I’m proud of their performance and continued dedication to the warfighter.” ✈️

Sheet metal mechanics Keenen Wright and Heath Bryant, assigned to Fleet Readiness Center Southeast’s F-5 Production Line, fit, drill and install the landing gear door hinge assembly on an F-5N Tiger II.

From Demo to Depot: New Application of Cold Spray Technology Arrives at FRCE

Following years of rigorous testing and evaluation, a cold spray metallization technology that was initially demonstrated at Fleet Readiness Center East (FRCE) is now being fielded on the H-1 line at the depot's detachment on board Marine Corps Air Station New River, North Carolina.

The new system will aid in reducing aircraft maintenance turnaround times and decreasing costs, said Jessica Templeton, the Air Vehicle and Materials Engineering lead with the Naval Air Systems Command (NAVAIR) Fleet Support Team's Advanced Technology and Innovation Team at FRCE.

"With this mobile, autonomous cold spray system, we'll be bringing repair capabilities closer to the aircraft," she said. "We will be able to make repairs in the shadow of the aircraft that were previously not possible using existing, approved cold spray systems. And there's flexibility in that the system can be programmed to run autonomously or be used in-hand by qualified artisans.

"The system will save time, because the artisans won't have to fully disassemble the aircraft in order to complete these specific, approved repairs," Templeton said. "We'll save on time and costs associated with transporting certain parts and components from one location to another. And we'll further save on costs by returning to use some components that would have

been scrapped before but can now be salvaged through the cold spray process. There are so many benefits to having this system approved for use."

The cold spray process bonds metal to metal in a relatively low-heat environment to deposit a coating onto a surface, or substrate. Solid metal powders are accelerated through a heated gas and directed toward a metallic substrate; the moving particles impact the surface and embed on the substrate, forming a strong bond. In aviation applications, cold spray is used to repair aircraft components like shafts, gearboxes and skid tubes by depositing a durable metallic alloy coating to surfaces. This coating can fill abrasions or gouges in some cases or provide protective coverage in others.

Most cold spray systems currently used by the Navy are located in booths, which creates size limitations, Templeton said. There are finite limits to the size of the components that can be treated in the booths, which means that parts often have to be removed from aircraft before spraying, or the components cannot be sprayed at all due to their size. The mobile nature of



U.S. Navy photo

From left, Skylar Fornes, metal spray artisan; James Bilderback, materials lab engineer; Clint Fees, VRC Systems trainer; and Chuck Overly, metal spray artisan, take part in training for a new mobile, autonomous cold spray metallization system that is being fielded on H-1 line at the Fleet Readiness Center East (FRCE) detachment on board Marine Corps Air Station New River, North Carolina.



U.S. Navy photo

Fleet Readiness Center East (FRCE) artisans practiced the handheld spray function during training on a new mobile, autonomous cold spray metallization system that is being fielded on H-1 line at the depot's detachment on board Marine Corps Air Station New River, North Carolina.

“Gearboxes have an expected service life based on flight hours, and when they come up with wear or chafing to the outer case, they’re pulled out of service long before they were ever meant to be. There’s a tremendous cost to that, both fiscally and in terms of component availability,” he said. “What this system does is allow artisans to make repairs to many of those outer cases, so those gearboxes can be put back into service and used for their planned life.”

McCardle agreed the unit’s mobile nature will also boost readiness by reducing aircraft movement, thereby reducing downtime during the maintenance process.

“The cold spray system being previously used to make these repairs is not mobile,” he said. “With this version, you can take the tools to the aircraft rather than having

this system mitigates those size constraints and also lends itself to the possibility of on-aircraft repairs in locations that do not have permanent cold spray booths.

Templeton and her team have been working for years with the Naval Aviation Enterprise Cold Spray Integrated Products Team to make the vision of a mobile, autonomous cold spray system a reality for aircraft maintainers at the depot level. In late 2019, FRCE hosted the first U.S. field demonstration of an on-aircraft structural repair using a mobile, autonomous cold spray metallization system funded under the Office of the Secretary of Defense Foreign Comparative Test Program. Over the course of the two-day trials, the team demonstrated an on-aircraft repair to the windowsill of a V-22 Osprey, and also conducted an off-aircraft repair to a surplus H-1 skid tube.

The H-1 program was the first within NAVAIR to adopt the new system, Templeton said, and has approved it to make specific repairs to the helicopter’s combining gearbox and skid tube. It is gratifying to see the team’s work come to fruition, she added.

“It takes a lot of time, a lot of effort and a lot of supporters within NAVAIR; however, it is all worth it when we implement a technology that will ultimately benefit our warfighters,” Templeton said.

Tim McCardle, a support equipment logistics management specialist with NAVAIR’s Marine Corps Light/Attack Helicopters Program Office, said officials anticipate the system will have a positive impact on readiness by helping ensure components reach their full service life, rather than being scrapped early due to wear, as is the case with the H-1 combining gearbox. The system has also been fielded at the Fleet Readiness Center Southwest field site at Marine Corps Base Camp Pendleton, California.

to wait to bring the aircraft to the tools. You save a lot of motion that way by not having to move an entire aircraft.”

Kevin Conner, H-1 Drives and Diagnostics manager for NAVAIR’s H-1 Fleet Support Team at FRCE, said using a mobile system allows for more flexibility in processes that were formerly confined to depot industrial spaces, which will help improve the H-1 program’s responsiveness to needs of the fleet.

“The new system will help cut the time the assets are out of service for repairs, and greatly improve the range of repairs that can be completed,” Conner said. “This capability affords the opportunity to execute in-service repairs in place of transferring the entire aircraft out of the squadron and into the depot, which reduces the aircraft’s time out of service and increases mission readiness.”

While the H-1 program is an early adopter of this system, there are potential use cases for the technology that exist for other aircraft platforms throughout the Naval Aviation community, Templeton said. For example, the system has been tested as a possible solution for repairing a fitting on a V-22 Osprey that currently requires major disassembly of the aircraft to address.

“Cold spray technology is shifting the scope of repair to address metal repair and restoration with a solution that surpasses existing adhesive-based repairs, weld repairs and mechanical fastening repairs,” Connor said. “Cold sprayed material mechanically and metallurgically bonds to the substrate, effectively becoming part of the damaged material. Cold spray is superior to welding in that it does not dramatically degrade the material process with a large heat-affected zone, and material properties are maintained without requiring a follow-on process like annealing or heat treating. This opens up future capabilities for all types of applications that are yet to be imagined.” ✈️

FRCE Marks 100th F-35 Parachute Milestone



U.S. Navy photo

Eric Gares, front, oxygen equipment repair mechanic, and quality assurance inspector Josh Unruh put the final touches on the 100th F-35 Lightning II parachute repacked at Fleet Readiness Center East (FRCE).

Fleet Readiness Center East (FRCE) marked a milestone in its support of the F-35 Lightning II program when the depot recently completed its 100th F-35 parachute repack.

According to Fleet Readiness Center East Commanding Officer Capt. James M. Belmont, the depot inducted its first F-35 parachute in February 2022 and quickly established an efficient workflow.

“We are extremely proud to reach this milestone less than one year after inducting our first parachute,” Belmont said. “This achievement showcases the depot’s ability to support the needs of the warfighter and highlights the continuing expansion of our F-35 capabilities.”

FRCE declared capability on its first F-35 component in 2018. By the close of 2022, the depot had declared capability on 32 components, including the parachutes for the fifth-generation fighter.

“Our component workload plays a

critical role in supporting fleet requirements and mission readiness,” Belmont said. “It’s something we are very proud of. Getting these parachutes and other components out to the fleet ensures that pilots can continue to train and conduct real-world operations.”

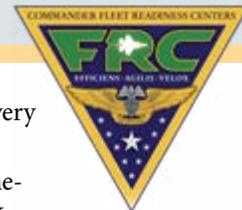
Parachutes for the F-35 are first assembled and installed by the manufacturer. At scheduled intervals, they must come off the aircraft for repacking. FRCE F-35 Components Program Manager Angie Lane said this process entails rigorous inspections and maintenance by a team of highly trained specialists at the depot.

“Our Ordnance Shop works the F-35 parachutes,” Lane said. “Once finished, these parachutes can be used in all variants of the F-35. They could go to a

military service depot, to a squadron or to a foreign country that flies the F-35.”

Standing up the capability to satisfy these requirements began long before the first parachute arrived at FRCE. A team of experts drawn from throughout the depot had to consider factors such as current and future workloads, manpower requirements, facility and tooling needs and supply support. A project of this scale also requires intensive collaboration not only within FRCE, but with outside entities as well.

“This was a huge initiative,” Lane said. “It encompasses the F-35 Joint Program Office, the manufacturer and other partners as well as folks from throughout the depot. Our quality assurance inspectors, engineers, production controllers, Examiner and Evaluator teams and the artisans inside the Ordnance Shop all play crucial roles.”



Despite the number of collaborators and the complexities of the project, Lane said the team made rapid progress. She said knowing the role a parachute plays in military aviation provided the team with a sense of urgency.

“When you think about all the components on an aircraft, you might not think of the parachute first,” Lane said. “It’s not part of the engine or the fuel system, but it is absolutely crucial.”

Because they are life-saving pieces of equipment, great care is taken with each parachute that is inducted at the depot.

When a parachute arrives at FRCE for a repack, quality assurance inspectors at the depot review history sheets, which log any changes or repairs made to the parachute. They also verify that the parachute is scheduled for a repack.

The parachute then goes to the artisans in the Ordnance Shop who disassemble it. This is performed on a table measuring more than 50 feet long where the parachute is put through a rigorous inspection process. The packers look for imperfections and damage, anything that might potentially hinder the parachute from deploying if engaged. This is often imperceptible to the untrained eye. Because of this, the artisans working the parachutes undergo highly specialized training.

According to Andrew Altman, the

overhaul and repair supervisor who oversees FRCE’s Ordnance and Cryogenics shops, the artisans working the F-35 parachutes must graduate from the Navy’s Air Crew Survival Equipment course in Pensacola, Florida. The course is two and a half months long.

“Our people train alongside military personnel,” Altman said. “It’s parachute rigger school. After that, we have to attend additional training specific to the aircraft type, model, and series. In this case, that means the F-35. We have had a few people come to us who already went through all the training, but we had to send most of our people out to this.”

If there is anything that needs to be replaced, the artisans order the parts and replace them. The parachute is then reassembled. Lane said the artisans log any changes made to the parachute as well as anything that was replaced. These history sheets go back to quality assurance inspectors who verify and validate the information.

“This is important because the information is shared with our partners and put into a database,” Lane said. “That way, when a customer receives that parachute, they can electronically obtain this data for their records of the aircraft.”

Because they must ensure that every parachute will function flawlessly if it is ever used, Altman said that artisans must

pay careful attention to every aspect of the process.

“You have to be very meticulous,” Altman said. “You are looking over every panel, inch by inch. You have to be just as meticulous with the record keeping too. It’s all very strict.”

The work might seem overwhelming to those outside of the Ordnance Shop. Lane described the parachute packers as some of the most dedicated people she’s ever worked with.

“They have friends and family that are pilots,” Lane said. “Many served in the military. They want to know that if the parachute ever needs to be used, the pilot is going to come home safely.”

Despite the successful completion of the depot’s 100th parachute repack, Lane said the team isn’t slowing down to celebrate. She said they have already set their sights on the F-35 seat survival kits, which FRCE will likely be declaring capability on in the very near future.

“That’s going to be another huge initiative that is going to take on the same sense of urgency as the parachute,” Lane said. “There are a lot of folks depending on this depot to give them what they need. We all know that, and we are successful because everyone involved takes this responsibility seriously and puts forth maximum effort.” 🇺🇸



U.S. Navy photo

Fleet Readiness Center East’s (FRCE) Ordnance Shop poses for a photo with the 100th F-35 Lightning II parachute repacked at the depot.

FRCE Transportation Branch Keeps Production Moving with New Trailer

A new asset in the Transportation Branch at Fleet Readiness Center East (FRCE) is helping reduce turnaround times by simplifying aircraft movement between depot sites.

FRCE has added a double-drop trailer—also known as a lowboy—to the facility’s transportation fleet, allowing the depot to move H-1 variant helicopters and other large assets, like cranes, between locations without having to enlist the services of partner organizations or external contractors. This capability could help shave up to 10 working days off turnaround times for the UH-1Y Venom and AH-1Z Viper helicopters that FRCE services at its Marine Corps Air Station (MCAS) New River, Jacksonville, North Carolina, detachment, said Brian Van Apeldoorn, the detachment’s overhaul and repair supervisor.

“This is going to help mitigate one of the major headwinds we have when it comes to getting these aircraft back to the squadrons who are depending on us,” he said. “It’s not just the trailer itself, but all of the logistical elements that go along with it—the scheduling, the permitting, the follow trucks—that we’ll be able to streamline by addressing in-house, which will allow us to boost productivity and reduce cycle times. I think we’re going to see that having these services available organically is going to make a real difference, especially as our schedule increases.”

Van Apeldoorn said FRCE previously relied upon local Department of Defense transportation agencies to move aircraft from the New River detachment to FRCE’s clean and paint facilities at Cherry Point, North Carolina, and return the aircraft afterward. These external partners are accountable to several clients beyond FRCE, which sometimes led to limited availability.

On top of that, Van Apeldoorn said, aircraft maintenance operations are notoriously complex, which can make it difficult to estimate phase completion dates; that only added to the intricacies of scheduling with third parties responsible for supporting other organizations, as well.

“There were times we’d have to schedule a move up to 30 days out, and then run into changes in our maintenance schedule because of supply constraints, or needed repairs that weren’t identified initially,” he said. “If we weren’t able to make the initial move date and had to reschedule, we ran the risk of having a workforce left waiting on an aircraft to either go to or come back from clean or paint at Cherry Point. Missing that mark can incur a significant labor cost for just a day or two of delay.”

Having the ability to easily change the scheduled move date



Artisans on the H-1 production line prepare an AH-1Z helicopter for movement from the Fleet Readiness Center East (FRCE) detachment at Marine Corps Air Station (MCAS) New River, North Carolina, to the FRCE depot at MCAS Cherry Point, North Carolina.



Heavy truck driver Danny Beligotti backs a trailer into the H-1 hangar at the Fleet Readiness Center East (FRCE) Marine Corps Air Station (MCAS) New River, North Carolina, detachment to load an AH-1Z helicopter for transport.



with as little as 24 to 72 hours' notice is a game-changer, agreed Stephen Sittinger, the work leader on FRCE's H-1 production line at New River.

"Being able to reduce the number of potential delays is going to have a positive effect on the team, and we're going to see that reflected in reduced turnaround times for the warfighters," he said. "These aircraft keep coming in, and the Marines need them back. So, the faster we can get them out the door, as we continue doing it the right way in terms of quality and safety, the better it is for everyone."

Gabriel Garcia, who manages the Transportation Branch at FRCE, said the concept of the depot developing an organic capability for moving large assets came about after cascading logistical issues led to a delay on movement of several aircraft over a short period of time.

"There were three almost back-to-back incidents where we couldn't have movements supported because of either the equipment, the operator or the permit," Garcia said. "We ended up having to contract out those moves for a significant cost."

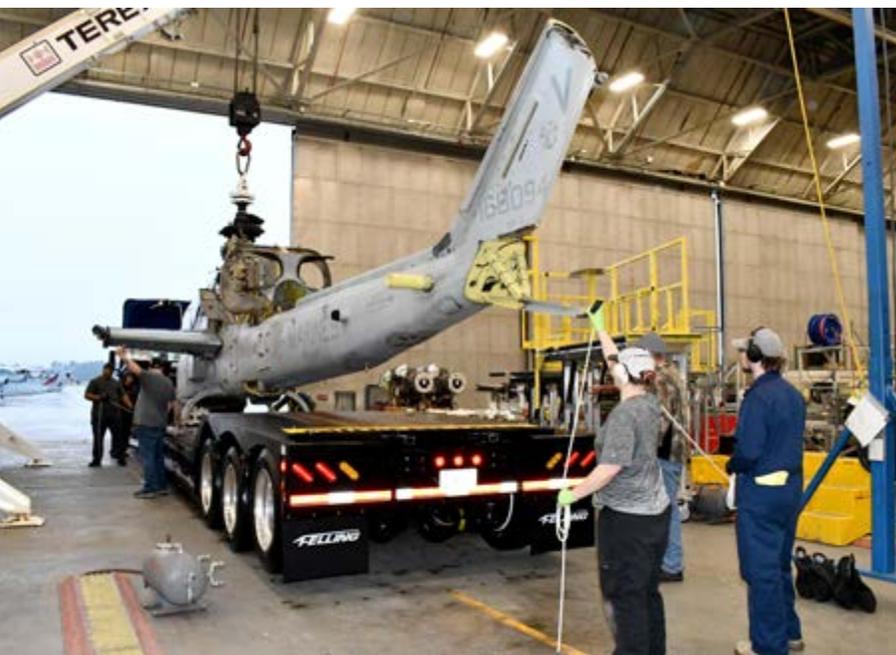
"It became clear that the cost of these contracted moves and the cost of delays were enough to justify FRCE developing its own moving capability," he said. "FRCE had the operators, but we needed the equipment—which we could acquire. The permitting was probably the trickiest piece, because it was something that hadn't been done during my tenure. I knew there would be a learning curve, but I also knew we had done it before and could do it again."

Garcia said depot leadership thoroughly analyzed the data before approving the initiative—just in time for global supply shortages to make it almost impossible to acquire the trailer. Now, the Transportation Branch has the trailer in hand, along with a tandem-axle truck to pull the trailer and load. The team recently used the new equipment to pick up its first load, an AH-1Z from the New River detachment that was headed to Cherry Point for cleaning.

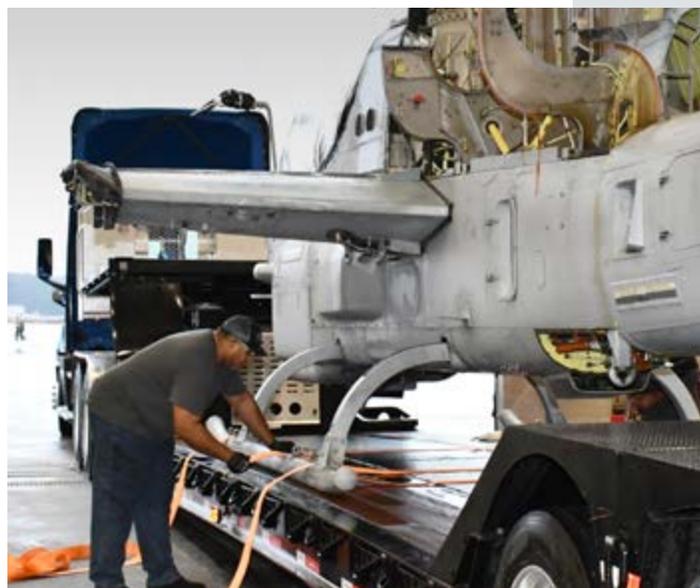
Garcia said he's excited to help make a difference in flight-line readiness as his team moves aircraft to and from FRCE's detachments at MCAS New River and the North Carolina Global TransPark in Kinston. While transportation services are often a behind-the-scenes facet of maintenance operations, he knows the team is helping the depot in its goal of supporting military aviation readiness.

"That's what we're all about here: safety, quality, throughput and cost in support of the warfighter," he said. "People can lose sight of transportation as a key piece of that because it sometimes fades into the background noise—but if transportation stops running smoothly, it quickly becomes clear how integral it is to operations."

"Having this new equipment internally, we can conduct a whole month's worth of moves for the same cost of what one contracted move could have cost," Garcia said. "It offers us so much more flexibility in our operations, and it's going to allow us to support increases in worker efficiency and prevent delays. We are now the masters of our own destiny." 🦅



Workers from the Fleet Readiness Center East (FRCE) H-1 production line at Marine Corps Air Station (MCAS) New River and the depot's Transportation Branch load an AH-1Z helicopter onto a trailer for transport to MCAS Cherry Point, North Carolina, for cleaning.



U.S. Navy photos

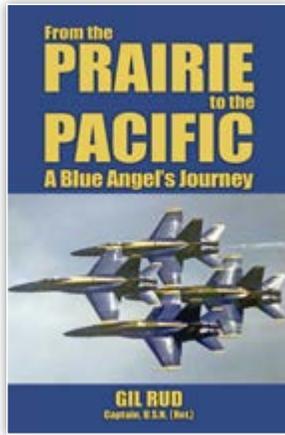
Ricardo Deleon, an airframes worker on the Fleet Readiness Center East (FRCE) H-1 production line at Marine Corps Air Station (MCAS) New River, secures an AH-1Z helicopter to a trailer for transportation to MCAS Cherry Point, North Carolina, for cleaning.

Professional Reading

By Cmdr. Peter Mersky, USNR (Ret.)

From the Prairie to the Pacific: A Blue Angel's Journey

By Capt. Gil Rud, U.S. Navy (Ret.), Elm Grove Publishing, San Antonio, Texas. 2022. 413 pp. Ill.



Most books written as autobiographies or memoirs by those who have served in the U.S. military are often touted as putting the reader in the cockpit in the midst of the action described, or presenting themselves or the individual whose deeds and careers described as giving the reader the chance to experience what they have in the decades that include that story. Some succeed, many do not. Capt. Rud has definitely

achieved that goal. Indeed, any of us who have gone through Aviation Officer Candidate School (AOCS), flown many different types of aircraft in or out of combat, known so many other people of the same frame of mind and intent, will find themselves nodding or shaking their heads, smiling as they recall their own time in these arenas that could try our single and collective spirits and dedication to ourselves as well to others.

North Dakota provided Rud a unique venue in which to grow up and form his own interpretation of his life. His interpretation later allowed him to go through pre-commissioning training as well as the flight training that enabled him to finally join his fleet squadrons to perform all he had hopefully prepared himself for nearly three decades of flying. Rud flew 5,600 hours and 786



Photo courtesy of Gil Rud

Returning home to Lemoore, California, from his third cruise in 1973, Gil is delighted as his 6-year-old daughter Valerie breaks through security lines to run to her dad. Anyone who has been there has to smile at this wonderful heart-touching example of a homecoming for family members. Twenty-three years later, the scene was repeated with father and daughter exchanging roles when Valerie, now an E-2 pilot, was returning from a cruise in the same carrier, the USS Enterprise (CVN 65), that had taken her father home.

No photo probably describes the pilot skill and attending danger than this view of the Blue Angels' signature four-plane Diamond 360, when the team's four formation pilots are flying overlapped with just 36 inches of separation between aircraft. The No. 3 aircraft's canopy is only 18 inches from the Boss's left wing tip.

Now the Boss of the Blue Angels, Cmdr. Rud beams from the cockpit of the team's new mount, the F/A-18 Hornet, in 1987.



Photo courtesy of Gil Rud



U.S. Navy Photo

traps, and topped it off by leading this country's most unique flight demonstration squadron for three years, while flying a veteran aircraft like the A-4 and then leading his squadron through the complicated transition to the F/A-18 Hornet, many of which were serving in the fleet.

There are humorous descriptions of his AOCS experiences as a member of Class 20-67, such as "M-1 Thumb," an occasionally painful but minor affliction when handling the WWII-era rifle, and cheap steaks at the ACRAC, a club for AOCS candidates that was only open on Friday and Saturday nights. He flew with Attack Squadron (VA) 125 from March-August 1969, flying the A-4, before joining VA-216 for a Med cruise in the USS Forrester (CVA-59). Then, while once again training with VA-125 at Naval Air Station Lemoore, California, to fly the A-7 Corsair September 1970-February 1971, Rud's neighbors had been Bart Creed and his wife. Rud flew A-7Bs with VA-215 from the USS Oriskany (CVA

34) in the final months of the Vietnam War on occasional missions in and around heavily defended Tchepone, a small town east of Khe Sanh in the southern panhandle of Laos that became well known for its well-positioned thickets of deadly enemy flak sites.

Earlier, in March 1971, Creed, now assigned to VA-113, flying A-7Es from the USS Ranger (CVA 61), was shot down during a strafing run along the notorious Ho Chi Minh Trail, the main supply route from North Vietnam into South Vietnam. Creed ejected but was evidently badly hurt and was not seen again. His remains were never returned, unlike those of many of the American crewmen, whose remains were eventually returned. A contemporary ballad titled "Tchepone" whose tune is based on the popular cowboy song "Strawberry Roan," written several years before Creed's loss, colorfully describes a USAF's F-4 aviator's terrifying experience over the town.

Rud devotes much of his memoir to family memories as he tells the story of his wife and children as they follow him through his career. Indeed, his eldest child, Valerie, followed her dad into Naval Aviation, becoming an E-2 pilot and squadron commander, and even commanding the AEW wing, now designated Commander, Airborne Command and Control Squadron in control of all E-2s and C-2s (presumably now CMV-22Bs, which recently replaced the C-2 Greyhound on both coasts). Valerie retired as Chief of Staff for the Vice Adm. Superintendent of the U.S. Naval Academy.

As I read the book, I found that I knew several of the people he met beginning in AOCS and later in other assignments, which shows you how often the Navy can be a small world. All through the book, his flying adventures and the people he meets are its main theme, adding substance and enjoyable coincidence for a reader. He writes with a cavalier yet meaningful style in describing all his experiences in and out of the cockpit.

The chapters dealing with Rud's tour (November 1985-November 1988) as the Blue Angels' boss give details of that experience, both in and out of the cockpit, that are seldom shown in other books and histories of demonstration flight squadrons. These anecdotes and descriptions should be of great interest to those readers who follow these special units and will present a much better idea of what these officers and men and women go through to keep their aircraft up, besides flying their popular shows as well as maintaining their dedication throughout their tours. Rud's post-Blue Angel tour when he is selected for captain and a deep-draft command, in this case the USS Wabash (AOR 5), a replenishment oiler, with a surprisingly important mission, gives him yet another area to vividly describe.

"From the Prairie to the Pacific" is the best book about the Blue Angels and what a tour in the squadron meant to a former commander of the unit, indeed, about any demonstration squadron I have seen. 🐦



Photo by Peter B. Mersky

Cmdr. Rud studies a pre-show photo of area ground features before an air show at Naval Air Station Oceana, Virginia, in September 1987.



F4U Corsair vs A6M Zero-sen, Rabaul and the Solomons 1943-44

By Michael John Claringbould, Osprey Publishing, Ltd. 2022. 80 pp. Ill.

During World War II, certain pairings developed—the Battle of Britain, Spitfire vs. the Bf-109, 1944-45, the Mustang vs. the Me-262 jet, and in the Pacific, on the Solomon Island Chains, 1943-44, the F4U

Corsair and the Zero. The big-crank-winged Corsair, the new aircraft in the American approach to the naval fighter, quickly established itself against the veteran Mitsubishi Zero that had opposed Allied carrier fighters from the beginning starting with Pearl Harbor.

By 1943, starting with the later Guadalcanal campaign,

Lae and Bougainville, the U.S. squadrons, especially the growing cadre of Marine Corps, began bringing the new F4Us into the arena to fly against the still-dangerous Zero models then in use, namely the A6M2 and A6M3 (with clipped wings to enhance maneuverability), especially when flown by still-competent Japanese aviators who had survived the battles of the Coral Sea and Midway in May and June, respectively.

This new book, No. 119 in Osprey's popular "Duel" series from Australian researcher and artist Michael John Claringbould, places these two widely differing fighters in sharp focus with photos and meticulous profiles supporting fact-filled text that altogether create an encyclopedic look at the rapidly developing air war in the Pacific.

As noted in my earlier column in the Winter 2022 issue of Naval Aviation News, this author's Pacific Profiles No. 4 and 5 deal with the mostly Marine squadrons that flew F4U-1/A Corsairs in the roughly two years that included the Solomons campaign, along with a single Navy unit, Fighter Squadron (VF) 17, that flew from shore bases in the wide-ranging campaign.

The F4U-1 was easily identified by its characteristic "bird cage" cockpit canopy, while the F4U-1A featured a "bubble-shaped" canopy that was clear of most of the earlier frames, affording better visibility. The Navy took a year to get comfortable with its big blue and powerful gull-winged fighter around a carrier. Its long nose made the approach to the ship's flight deck and following landing difficult for new aviators. Its companion F6F Hellcat was much more forgiving to less-experienced pilots.

And as I noted, for those readers who wonder about the difference between the Pacific Profile books and Osprey's books, the first two books offer more details of individual aircraft color schemes and markings, while the Osprey series gives more attention to the details of engagements and the fighting that took place. 🛩️



Photo courtesy of Michael John Claringbould

These Marine Fighter Squadron (VMF) 124 F4U-1s were the first Corsairs to arrive at Guadalcanal in February 1943. Note their hallmark "bird cage" canopies. The nearest Corsair is marked with "1" and belongs to the squadron commanding officer Maj. William Gise, who was lost with this aircraft on May 13 when engaging experienced Japanese pilots in A6M2 Zeros.



Photo courtesy of Michael John Claringbould

These A6M3 Model 22 Zeros are from the 582nd Kokutai, a fairly large organization that could include as many as 27 aircraft, nine each in individual Chutais (Japanese individual unit organization was quite different from American examples). Their pilots are warming up their fighters' engines before launching on a long-range mission against targets in the Solomons on June 16, 1943. Along with a 72-gallon center-line drop tank, the Model 22 also included additional 12-gallon fuel tanks in the fighter's rounded wing tips, giving this Zero the greatest range of any of the many models of the Zero. Note the command chevrons on the first Zero's rear fuselage.



Blue Angels Decades 1946-1955

A Guided Tour Through the History of the World's Greatest Flight Demonstration Squadron, Volume One

By Mathew J. Garretson. 2021. 154 pp. Ill.

There have been many books and articles about the Blue Angels in both commercial and Navy publications. We would think that everything has been shown and related about this group of naval aviators, and the people who support them on the ground so they can give the people who watch their outstanding flight demonstrations at air shows around the country the best impression of just how colorful and exciting flying for the Navy and the Marine Corps is. This new book shows how much remains to be told.

The author is a life-long aviation enthusiast and is the executive director of the A-7 Corsair II Association. He has really done something. I've seen a lot of books and articles on the Blues, but nothing like this one.

A few years ago, a former Blue asked me to do such a book, but I could never have matched this offering by Garretson. The design and photos, not to mention the text and graphics are just wonderful. I wish my long-time friend Rear Admiral E.L. "Whitey" Feightner (1919-2020), nine-kill Pacific ace, great test

pilot, member of the 1952 team and one of only two Blue Angels to fly the Vought F7U-1 Cutlass in Blue Angel colors, could have been here to see it. He'd have loved it.

The publisher has allowed Garretson free rein to accomplish his vision of what a major history and portrayal of the Blue Angels' birth in April 1946, courtesy of Adm. Chester A. Nimitz, Chief of Naval Operations, and ongoing development should look like. The book begins with a foreword by retired Capt. Gil Rud, the CO or "Boss" of the team 1986-1988, whose memoir leads off this issue's column. Then, supplemented by contemporary public affairs publications such as programs for various air shows around the country, as well as notes on the many individual aviators and their aircraft that made the team what it became, including team rosters throughout the years. Surely, the volumes that will hopefully follow will bring the story up to and through the 21st Century, resulting in the ultimate history of this truly unique group of men and women who represent the best of what Naval Aviation has come to be. ✈️

The 1947 team walks the flight line at Floyd Bennett Field, New York. In the background is one of their F8F Bearcats, arguably one of the smallest yet most powerful single piston-engine fighters to ever fly from a U.S. carrier, too late to combat Japanese kamikazes. From left is Lt. Bob Thelen, Lt. Chuck Knight, Lt. Cmdr. Bob Clarke (OINC), Lt. Cmdr. R.E. "Dusty" Rhodes, Lt. jg. Billy May.

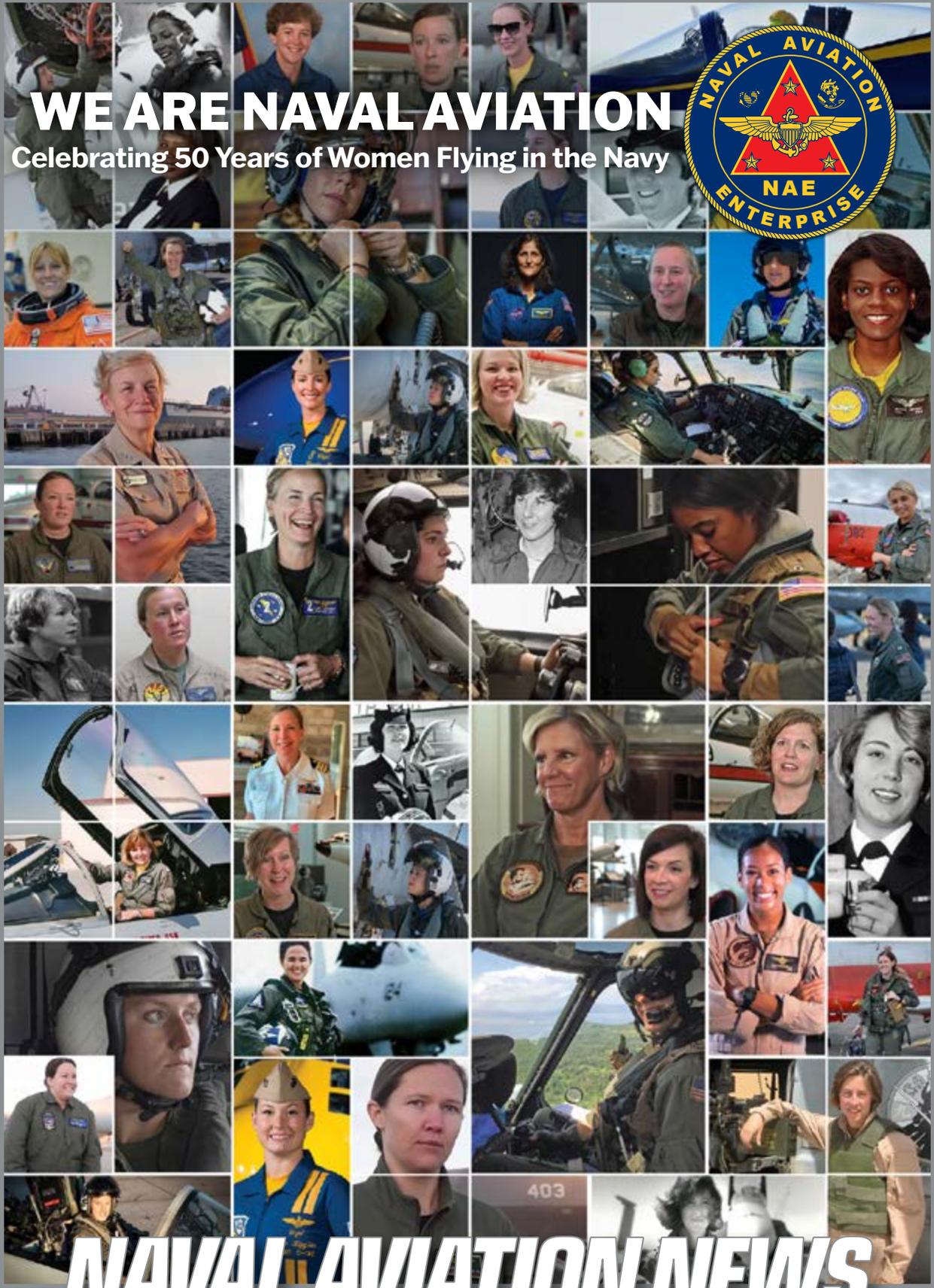


Only two men flew the F7U-1 Cutlass in Blue Angels colors, then-Lt. Cmdr. (later Rear Adm.) "Whitey" E.L. Feightner and Lt. Harding C. "Mac" Macknight. In this photo, Feightner flies the Cutlass in the foreground, with Macknight on his left wing in the background.

Thanks to Tony Holmes, Capt. Gil Rud, Barrett Tillman and Michael Claringbould for help with captions, and obtaining artwork for this issue's reviews.

WE ARE NAVAL AVIATION

Celebrating 50 Years of Women Flying in the Navy



NAVAL AVIATION NEWS

NAVAIR Command Communications Department ■ 47123 Buse Road, Suite 547 ■ Patuxent River, MD 20670

◀◀ BACK TO C ▶▶