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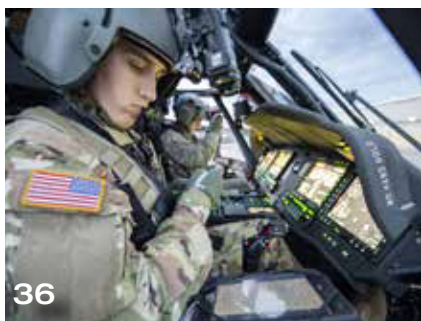
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# Contents

December 31, 2022, Vol. 71, No. 12

## TO THE FIELD

- 10 Army Aviation Branch Chief's Corner**  
By MG Michael C. McCurry II
- 14 Program Executive Officer Aviation Update**  
By MG Robert L. Barrie
- 18 PEO Aviation Command Chief Warrant Officer Update**  
By CW5 Travis Dixon
- 22 Sergeant Major of the Program Executive Office**  
By SGM Carlos Loeza
- 26 Reserve Component Aviation Update**  
By Ms. Lisa Dodd
- 28 Combat Readiness Center Update**  
By BG Gene Meredith
- 30 128th Aviation Brigade Update**  
By Mr. Steven Burge
- 32 CCDC AvMC Tech Talk**  
By Ms. Emma Rhonemus
- 34 Ask the Flight Surgeon**  
By CPT (Dr.) Andrew Glenn and MAJ (Dr.) Jeannie Bay

## SPECIAL FOCUS — Industry Support & Challenges

- 36 Confronting an Old Foe: Defeating Degraded Visual Environment for Army Future Vertical Lift**  
By Yanik Doyon
- 40 Using Robust 421® Metal Fiber Media Filtration to Enhance Aircraft System Performance and Reliability**  
By David Conrad and Mike Sandford
- 42 USASOAC Successfully Tests HARD-20 Liferaft Via Air Drop from MH-47 Chinook**  
By Greg Yerks





# Contents

December 31, 2022, Vol. 71, No. 12

## SPECIAL FOCUS - Industry Directory

- 44 2022 Industry Partners Directory - ARMY AVIATION** Magazine's original directory of current contact information for year round reference to the industry partners of the Army Aviation team.

## SPECIAL FOCUS — Science & Technology/Research & Development

- 68 Another Fantastic Year for Army Aviation!**  
By Mr. Jeffrey Langhout
- 70 Army Aviation S&T – New Developments in Army Aviation**  
By Ms. Christi H. Dolbeer and Mr. Carvil E.T. Chalk
- 72 Priorities for FY23 Airworthiness Investments**  
Mr. Keith R. Darrow
- 74 Army Aviation Life Cycle Software and Systems Engineering**  
By Scott Dennis, Doug Anthony, and Amber Marsh
- 78 Aviation Turbine Engines Focuses on People First**  
By Gina Bublitz and Cindy Mitchell

## SPECIAL FOCUS — Future Vertical Lift

- 80 The Future Long Range Assault Aircraft (FLRAA) Achieves Initial Preliminary Designs**  
By LTC Jennie E. Conlon

## SPECIAL FOCUS — 2022 Cribbins Wrap Up

- 82 2022 Cribbins Wrap Up - Expanded Format, Continued Success!**  
By CW5 Adam Jarvis

## FROM THE FIELD

- 86 Aviation Innovation Through the Combat Aviation Brigade Architecture Integration Lab**  
By Mr. Al Abejon

## DEPARTMENTS

### AAAA NEWS

AAAA President's Cockpit.....	8
AAAA VP Chapter Affairs .....	90
Chapter OSM News .....	98
AAAA VP Membership .....	92
New Members.....	93
AAAA Family Forum .....	94
AAAA Legislative Report .....	98
AAAA Scholarship Foundation Donors..	96

### ARMY AVIATION COMMUNITY NEWS

Advertisers Index .....	97
Art's Attic .....	102
Briefings .....	6
Calendar .....	95
Enlisted Aviation Soldier Spotlight .....	24
Hall of Fame.....	103
Historical Perspective .....	88
Industry News.....	97
People on the Move .....	99

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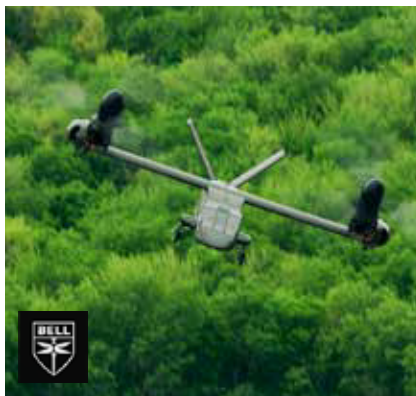
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## On The Cover

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# Briefings ▶ Late Breaking News - Announcements

## Bell Wins FLRAA Contract



Textron Inc announced on Dec. 5, 2022 that Bell Textron Inc., a Textron company, has been awarded the development contract for the U.S. Army's Future Long-Range Assault Aircraft (FLRAA) program, the Army's largest helicopter procurement decision in 40 years. The award is based on Bell's V-280 Valor tiltrotor that was developed and tested as part of the Joint Multi-Role Technology Demonstrator (JMR TD) program that began in 2013. The deal for the next-generation helicopter is worth up to \$1.3 billion and is set to replace roughly 2,000 Black Hawk utility helicopters around 2030. The initial contract refines the weapon system design, sustainment, digital enterprise, manufacturing, systems integration, flight-testing, and airworthiness qualification.

## Deon Takes Over USARAC



BG Roger F. Deon, Jr. receives the colors of the U.S. Army Reserve Aviation Command from MG Eugene J. Leboeuf, deputy commanding general of U.S. Army Reserve Command, as he assumes command during a ceremony on Oct. 16, 2022, at Godman Army Airfield, Fort Knox, KY. COL Lindsey Halter who had served as the acting commander, will continue as the unit deputy commander.

## Army Aviation Inducted Into Hall of Fame



MG Michael C. McCurry II, commanding general of the United States Army Aviation Center of Excellence and Aviation Branch Chief, makes comments following the induction of Army Aviation into the International Air & Space Hall of Fame, during its Annual Gala on Nov. 19, 2022, in the San Diego Air & Space Museum's Edwin D. McKellar Pavilion of Flight, San Diego, CA. The International Air & Space Hall of Fame is an honor roll of people, groups, organizations, or things that have contributed significantly to the advancement of aerospace flight and technology, sponsored by the San Diego Air & Space Museum. Since its founding in 1963, over 200 individuals have been inducted into the Hall. The presenter for Army Aviation was Linda Robertson, (left) widow of the late Army Aviation Hall of Fame member, Harry S. Robertson, who was also a past individual inductee at the San Diego International Air & Space Hall of Fame.

## Assistance Command Created to Oversea Ukraine Training Mission



The United States has established Security Assistance Group – Ukraine or SAG-U, a three-star command to oversee support to Ukraine. The new joint forces command will be stationed in Wiesbaden, Germany to handle weapons shipments, personnel training, and other related tasks for the Ukraine conflict, according to an announcement on Nov. 4. The 300-person SAG-U will take over the job that the XVIII Airborne Corps headquarters recently turned over in Germany. LTG Antonio A. Aguto, Jr. was confirmed by the Senate on Nov. 30 to take command of the SAG-U which is expected to be up and running in early 2023.





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# Happy Holidays!

As you read this we will be in the midst of Christmas and Hanukkah holidays and hopefully enjoying some time with family and friends. That said, many of our brothers and sisters, sons and daughters, remain deployed around the world ensuring the rest of us can have the chance to appreciate these days.

Unlike so many people elsewhere around the world, we are so fortunate to live in a country where this is possible. No matter where we all may be, take a moment to embrace the reason for the season and give thanks for the freedoms we enjoy.

Last month we held a very successful Joseph P. Cribbins Readiness Conference in Huntsville, AL. Over 2,000 government and industry leaders attended, a new record. Thanks to all our AAAA industry members who supported the event with their exhibits and sponsorships. From Cribbins, we packed up and headed to Corpus Christi to host the Annual AAAA Luther Jones Depot Summit. No rest for the weary.

One of the highlights each year at our events is the Awardee Dinner the night before the actual on-stage presentations. I have to say this year was certainly no disappointment. What a pleasure to have our AAAA senior board members and senior Army Aviation Branch Six Pack leadership all breaking bread with these young Soldiers and spouses, hearing of their accomplishments, and reconnecting with the folks doing the real work out there around the enterprise including Industry and our great Department of the Army civilians. It re-energizes us all to redouble our efforts to make AAAA all it can be to best support you all. Special thanks to LTG Bob Marion, Military Deputy



*With his wife Bonnie by his side, Mr. Gary Nenninger (holding award), Tennessee Valley Chapter President, was presented the AAAA Outstanding Soldier and Family Support Award by AAAA President MG (Ret.) Tim Crosby on November 14 for his decades of service to Army Aviation and the chapter. MG Thomas O'Connor (left), AMCOM CG, and MG Robert Barrie, PEO Aviation, were also on hand among his many friends and associates to congratulate him.*

to the Assistant Secretary of the Army for Acquisition, Logistics and Technology and Director of the Army Acquisition Corps for keynoting the event and spending three full days with us engaging with briefers, Soldiers, and industry alike. Same-same for our Branch Chief MG McCurry; MG Rob Barrie, PEO Aviation; AMCOM Commander, MG O'Connor; MG Hank Taylor, Director Army Aviation HQDA G3/5/7; Director Future Vertical Lift, MG Rugen; Mr. Downer, Associate Director for Technology Applications and Director of Special Programs AMCOM; and all the PMs and their key leaders who came over from Redstone to interact with our Industry Partners.

As we swing into the new year, we look forward to the upcoming AAAA Annual Summit April 26-28, 2023 in Nashville. Housing and registration is already open through the AAAA website [www.quad-a.org](http://www.quad-a.org). The 2023 AAAA Annual Summit brochure has been packaged with this issue and will be bound into the January one as well, so no excuse for not knowing about the event. The highlight of this year will be

the celebration of the 40th Anniversary of the founding of the Army Aviation Branch, April 12, 1983. In the last 40 years, Army Aviation has cemented our relationship with the ground commander as a key enabler and an integral member of the combined arms team.

Make your plans now to attend the annual Summit. It is our annual culminating event, and we have a great line up of speakers and events. With our great industry sponsorship and government participation, the revenue generated by our Annual Summit sustains our professional organization and enables us to keep our annual dues the same since 1998. Please note the Industry Partners Directory in this issue of ARMY AVIATION Magazine. This is our largest industry directory ever and has the Who's Who of our industrial base by name, position, and includes their contact information.

Merry Christmas, Happy Hanukah, and Happy New Year to everyone. God Bless our Soldiers and their families.

*MG Tim Crosby, U.S. Army Retired  
35th President, AAAA*





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## ► Army Aviation Branch Chief's Corner

# Army Aviation and Industry: A Legacy of Partnership in Innovation

By MG Michael C. McCurry II



U.S. ARMY PHOTO BY SFC COLLIN S. MACKOWA

**A** rmy Aviation is the best-trained, best-equipped, and best-led Aviation force in the world.

To keep it that way, the Army must continue to transform across the DOTMLPF-P. This transformation requires a cohesive team of experts from across the enterprise that includes our industry partners for material development. It is the efforts and close partnership of the Aviation Center of Excellence, Army Futures Command, Program Managers, and Industry that allows us to deliver the best equipment for our Soldiers. Our collaboration with Industry allows the Army to reduce costs for innovation by sharing risk to deliver capabilities quickly with rapid prototyping and modern procurement processes.

Army Aviation's history is replete with examples of successful advancements made possible by Industry investment and partnership. Industry's positive influence in defending our Nation reached its zenith during World War II by enabling victory with massive weapon and materiel production on an unprecedented scale.

Following the Vietnam Conflict, the Army began focusing transformation in the 1980s on the capabilities of the "Big Five:" "Apache," "Black Hawk," "Bradley Fighting Vehicle," "Abrams Main Battle Tank," and the "Patriot Missile System" to enable the Air-Land Battle operational concept. Once again, the influence of Industry helped achieve the technological advantages we leveraged in Desert Storm, Desert Shield, and over the last 30 years to adapt to the demands of continuous combat operations

*U.S. Soldiers assigned to 7th Special Forces group and British Rangers assigned to 4th Rangers board a 160th Special Operations Aviation Regiment CH-47 Chinook as a part of Project Convergence 22 at Fort Irwin, California, Oct. 31, 2022. Project Convergence 22 experimentation incorporates technologies and concepts from all services and from multinational partners, including in the areas of autonomy, augmented reality, tactical communications, advanced manufacturing, unmanned aerial systems and long-range fires.*

during the Global War on Terrorism. During this era, we modernized our aircraft, including the UH-60M, CH-47F, the AH-64 Longbow, the C-27J Spartan, and multiple unmanned aircraft systems, including the MQ-1 Gray Eagle.

Today, we are transforming the force to meet requirements for the future operational environment. Emerging and advanced technologies are changing the character of war and creativity and innovation is paramount to fight, win, and survive on the battlefield of today and tomorrow. As we see in our observations from the war in Ukraine, everything is a sensor on the battlefield—civilian, military, and commercial technologies are heavily leveraged to detect friendly and enemy activities. Data is seemingly limitless and requires Artificial Intelligence (AI) and Machine Learning (ML) to process and analyze information to allow commanders to make decisions at the speed of relevance.

### Experimentation Events

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Capability Developers, and Industry to work together to employ new concepts and technologies in realistic and challenging operational environments. It also enables us to integrate technology from our Joint and Allied Partners to ensure interoperability in MDO. Through the experimentation of emerging operational concepts and capabilities as a Joint Combined Arms Team, we can capture data to improve technologies, validate concepts, and improve performance across multiple domains by simulating the conditions and challenges we would face in Large Scale Combat Operations. This learning is critical to the success of our transformation efforts and ultimately, to the success of the Joint Combined Arms Team.

Army transformation for Large Scale Combat Operations is the most significant undertaking in 40 years. This effort is critical in maintaining our competitive advantage against any adversary across all domains. Army Aviation will continue to dominate in the lower tier of the air domain as part of the land component while influencing the others. Industry partnership is essential for achieving requirements to put the right equipment and capabilities in our Soldiers' hands to win at the time and place of our choosing.

### Future Vertical Lift

New developments in Future Vertical Lift (FVL) allow the Army and Joint Force to operate from strategic distances required to create and exploit relative advantages in multi-domain operations. Science and Technology collaboration between Army Aviation and Industry influences not only materiel transformation but also shapes future requirements for doctrine, training, and sustainment to integrate future systems into the force seamlessly.

Our recent investments in Future Tactical Unmanned Aerial Systems (FTUAS) are also rapidly materializing as we plan for early fielding of advanced UAS to select locations over the next year. We are already leveraging the lessons we learned together with Industry Partners during FTUAS technology development to inform the roles and mission requirements of Air-Launched Effects (ALE) to enable the Joint Force to fight and win on the battlefields of tomorrow.

AI and ML will improve the lethality of multiple materiel systems by enabling rapid decision-making and reducing reaction times, but this will be an evolution not an overnight development. AI and ML technologies are maturing to augment or emulate human cognition in the future. These advancements require a "path to autonomy" and close alignment with Science and Technology efforts, and our concepts team is leading the way.

As our Branch forges into the future, we are studying and learning from the heroic achievements of our predecessors that embody our motto—"Above the Best." The best of Army Aviation is not only those who wear the uniform, but also our Civilians and Contractors who are technological Pioneers and Partners of Industry. Their imagination, passion, and aptitude remain a driving force for change and transformation. Together we will continue to uphold the Sacred Trust that Army Aviation has with the Soldier on the Ground.

Above the Best!

---

*MG Michael C. McCurry II is the Army Aviation branch chief and commander of the U.S. Army Aviation Center of Excellence and Fort Rucker, AL.*

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# PEO Aviation Acting to Improve Science and Technology Transition

By MG Robert L. Barrie

Transitioning aviation science and technology projects to acquisition programs of record has been a challenge for more than twenty years.

Multiple studies have been conducted to determine the most effective development strategy to prevent technologies from failing in acquisition valley of death and failing to reach the War-fighter. The challenges continue today with programs like Air Launched Effects (ALE).

The issues associated with the development of the ALE program and its complex insertion into the Future Vertical Lift (FVL) Ecosystem have been a driver for increased Program Executive Office, Aviation attention to this challenge.

The Army is making very large-scale investments in ALE S&T, and it is a critical aspect of the FVL Ecosystem in terms of enabling Future Attack Reconnaissance Aircraft and Future Long Range Assault Aircraft operations in Multi Domain Operations and contested airspace. Successful technology transition requires new systems and tools.

Assistant Secretary of the Army for Acquisition, Logistics and Technology policy updates added emphasis to Transition Agreements (TA) between the Laboratories/Centers and project managers (PMs). The TAs do not guarantee a successful transition; however, they do increase the communication and interaction with the labs which tends to reduce transition risk.

We have established an S&T cell to facilitate increased cradle to grave PM involvement with S&T projects. Early and recurring engagements with the labs and industry allow the PMs to shape proposals and usher products through planning, development, and final transition to help new capabilities



*ALE is a key part of the Future Vertical Lift (FVL) ecosystem. PEO Aviation is using lessons learned from the ALE program to ensure new technology transitions successfully and reaches the warfighter.*

reach the Warfighter.

At the same time, PEO Aviation S&T efforts are expanding and reaching further across the research community. While PEO Aviation has traditionally received most of its technology from the Development Command Aviation and Missile Center (DEVCOM AvMC), and its predecessors, programs like ALE have broader requirements and depend on truly state of the art electronic warfare and sensing systems. This requires PEO Aviation to expand its S&T efforts beyond AvMC and include DEVCOM Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) in a tightly coordinated, three-way effort.

We are increasing communication with the labs and reducing transition risk through three phases of product development: strategic planning, detailed program planning, execution progression and final transition.

### Phase 1: Strategic Planning

Strategic planning is a critical driver for successful transition. The plan must begin with a requirement and have a specific goal. Technology emerges and changes rapidly, and it is too easy to be swept up in the newest, most exciting technology

with little context as to how this technology can be used to address a system's requirements and/or mission needs.

To ensure the planning is focused, it begins with detailed discussions relative to the PM's required capabilities and their genesis. Topics that may be included in the discussion are the concept of operations, threats, mission sets, and use cases. This provides the labs with a basic understanding of the PM's needs. Representatives from the Capability Development Integration Directorate (CDID), Future Vertical Lift Cross-Functional Team (FVL CFT), and the labs are included in the planning phase to develop an overall technology transition strategy with the PM as the lead. The labs decompose the PM required capabilities and technology gaps into specific technology development areas. The strategy includes near mid and far term technology plans and it will be reviewed by the team annually.

### Phase 2: Detailed Program Planning

The PM's Strategic Transition Plan sets the stage for collaborative development of advanced technology demonstration (ATD) S&T, manufacturing technology projects and technology maturation initiatives. The PM provides



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Figure 1.

input to proposals and program plans to define critical knowledge points and required demonstrations. Early PM inclusion in the program plans improves communications, builds understanding, and develops better working relationships with the labs.

PM participants include critical acquisition subject matter experts from air worthiness, testing, logistics, training and sustainment. PM leads for Hardware-in-the-Loop, facilities, Modular Open System Architecture and Model Based System Engineering also provide inputs to the S&T project plan and key points for progress measurement during plan execution.

Intellectual property considerations are discussed early in proposal development. The PM ensures inclusion of all labs/centers with contributing research making sure that technology contributors and knowledge point metrics are derived from the strategic plan. This allows PMs to track progress.

This phase includes demonstration planning, with PEO Aviation PMs engaging in Project Convergence (PC) and Experimental Demonstration Gateway Event (EDGE) campaigns and associated Soldier touch points. Demonstrations such as PC, EDGE, along with advanced multi-level modeling and simulation efforts, increase efficiency and maximize system performance. They are crucial to program success and require careful and detailed coordination with the FVL CFT and the Aviation Center's CDID.

### Phase 3: Execution Progression and Final Transition

The PM collects transition metrics

and conducts transition gate reviews to evaluate the progression of the project and they assess the cost for transition at various points in the life of the project. PMs conduct transition risk assessments to determine the products' readiness for transition. A combination of modeling and simulation and field demonstrations establish technology maturity and progress. Any changes in S&T project focus will be discussed in length to ensure the project remains on track for transition.

### Summary/Conclusion

The acquisition "valley of death" has claimed many programs over the years. PEO Aviation is taking an active approach to technology transition, ensuring tight teaming between the combat capability developer and the materiel developers (lab and PEO). By carefully identifying emerging technologies to meet requirements, we will have a better opportunity to focus our resources and efforts on the new capability, pushing it through to successful completion. Detailed planning and thorough assessments during the S&T phase allow PMs to track progress and prepare for transition. They also identify programs that are not ready for further development and allow reallocation of critical resources. Managed collaboration increases the probability of success, reduces cost, and ensures that Army Aviation maintains its technological superiority in future fights.

*MG Robert L. Barrie is the Army Program Executive Officer, Aviation at Redstone Arsenal, AL.*





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# PEO Aviation – Advancing Army Aviation

By CW5 Travis Dixon



A MASPO Mi-17 helicopter, bound for Ukraine, is loaded onto a C-17 Globemaster III aircraft at Davis-Monthan Air Force Base, Arizona, June 9, 2022.

U.S. AIR FORCE PHOTO BY TSST. SERGIO A. GARCIA

When I arrived at PEO Aviation in 2019, one of the mandates former PEO, LTG Thomas Todd gave me was to raise awareness of PEO Aviation and what we do for the warfighter. That mandate remains in place more than three years later.



U.S. ARMY COURTESY PHOTO

*Soldiers from the 2nd Cavalry Regiment assemble an AeroVironment JUMP 20 FTUAS Increment 0 air vehicle as part of new equipment training. The FTUAS Inc. 0 award was for the rapid fielding of a residual FTUAS demonstration system in support of operations in Europe based on a unit submitted Urgent Operational Need Statement. This is a complete FTUAS demonstration system including air vehicles, payloads, ground data terminals and ground control stations and it was delivered on October 6.*

Many people are unaware of the scope of our mission. Basically, if it is aircraft related then PEO Aviation is responsible for it. From the smallest quadcopter to the Chinook to the Lakota and Future Vertical Lift (FVL), the breadth of our mission is astounding. It is precise, technical work that produces systems that are reliable, efficient and effective. In support of this mission, PEO Aviation has 10 project offices (Pos) and I'm going to touch on some of their recent successes.

One of our lesser-known project offices is the **Aviation Mission Systems and Architecture PO**. Responsible for a wide variety of ground support and non-OEM aircraft equipment, AMSA touches every aspect of the PEO mission.





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One of their recent successes is the Self-Propelled Crane, Aircraft Maintenance and Positioning Increment II (SCAMP II) expeditionary cranes. It is readily deployable and enables aircraft maintenance and recovery operations in austere and remote locations. In less than three years, AMSA went from awarding the delivery order to complete fielding of 122 units.

The **Attack Helicopter PO** is well known for its AH-64 helicopter. The Apache team is currently fielding the AH-64E version 6 which V6 leverages technology improvements and enables Army aviation to conduct attack, reconnaissance, movement to contact, and security missions across the full spectrum of military operations.

V6 fielding began in 2020 and units in Korea, the S.C. Army National Guard and at Joint Base Lewis McChord have received their aircraft and fielding at Ft. Campbell, Ky., is underway. In 2022, the Attack Helicopter PO delivered 52 aircraft and provided new equipment training to more than 1,100 pilots and maintainers.

We established the **Aviation Turbine Engine PO** in 2019. ATE is responsible

for the T55 and T700 engines, currently in use by the enduring aviation fleet, and the Improved Turbine Engine (T901) Program.

The T901 is more powerful and fuel efficient than current Army aviation engines. It will power the Future Attack Reconnaissance Aircraft (FARA) and when fitted to the Apache and Black Hawk fleets, ITEP will ensure their readiness and relevance on future battlefields. The ITEP engineering and manufacturing development contract was awarded in 2019 and the first engine successfully completed testing in June 2022.

Over at the Fixed Wing PO, they are leading the rapid transition to jet powered ISR aircraft. The Aerial Reconnaissance and Targeting Exploitation Multi-Mission Intelligence System (ARTEMIS) and Airborne Reconnaissance and Electronic Warfare System (ARES) systems are technology demonstrators built on commercial platforms. Both systems are contractor owned/operated and are flying operational missions. ARTEMIS and ARES are generating requirements and reducing risk for the High Accuracy Detection and Exploita-

tion System (HADES).

The CH-47 has been in Army service since the 1960's. It has changed significantly over the years and the **Cargo Helicopter PO** is taking it to the next level. The CH-47F Block II improves readiness, limits future sustainment costs, and includes redesigned fuel tanks, a strengthened fuselage and an enhanced drivetrain. There are two Block II contracts for six total aircraft and long-lead time funding for additional aircraft.

The CH-47F Block II successfully completed its first test flight in February 2020 and continues Block II Engineering and Manufacturing Development.

FVL is an Army Modernization priority. As one of the FVL programs, the **Future Attack Reconnaissance Aircraft (FARA)** will be the Army's "knife fighter" on the future battlefield. The **FARA PO** awarded the FARA Competitive Prototype Other Transactional Authorities in March 2020, and both competitors' prototypes are now about 90% complete and remain on track for first flights in 2023.

The second part of the FVL triad



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is the *Future Long Range Assault Aircraft (FLRAA)*. FLRAA is the next generation vertical lift, tactical air assault and MEDEVAC aircraft that provides increases in speed, reach, payload and endurance. PM FLRAA released the Request For Proposals in July 2021 and the Army will award the Weapon System Development contract in 2022. FLRAA has conducted two phases of risk reduction efforts that have generated flight test data that optimized requirements, realized cost efficiencies, and increased program flexibility, while maintaining rigor in the acquisition process. These efforts will result in a FLRAA first unit equipped in 2030.

*Future Tactical Unmanned Aircraft Systems (FTUAS)* is the third part of FVL. FTUAS provides increased VTOL maneuverability, on-the-move command and control capability, and a reduced logistical footprint.

FTUAS is being fielded in three tranches. Increment 0 is one system that has been fielded to the 2nd Cavalry Regiment to meet an urgent operational need. The first Increment 1 system is being tested at Redstone

Arsenal, AL. Increment 1 test results will be used to generate requirements for Increment 2. Increment 2 is a separate competitive acquisition program. It is a multi-year development effort, involving multiple vendors, with a fieldable solution available in fiscal year 2025. As the future fleet becomes available, the enduring fleet will continue to serve.

*The Utility Helicopter PO's* UH-60V program is recapitalizing analog UH-60L helicopters with full digital cockpits and controls. The H-60V completed initial operational test & evaluation in August and the results are due in December. To date, nearly 30 LRIP H-60V helicopters have been delivered.

The *Multi-National Aviation Special Project Office (MASPO)* provides rotary-wing assets to our allies around the world. During the drawdown of U.S. forces, it provided "Over the Horizon" aviation maintenance and logistics support for Afghan forces. Later, MASPO conducted retrograde operations for 30 aircraft and over 500 tons of aviation parts, tools and equipment and made them available to our allies.

A significant number of the recovered aircraft are now operating in Ukraine.

## Farewell

This is my last article as the Command Chief Warrant Officer for PEO Aviation. This organization is complex and touches all aspects of the Army and much of the DOD. The PEO team is talented, motivated and second to none in their jobs. It has been an honor to be part of this important mission and to work with such a talented workforce. I want to thank all the leaders and staff that have made my mission possible.

I can think of no better way to conclude my Army career. It has been an honor to serve this nation and the Army. I look forward to seeing you all in the future.

*CW5 Travis Dixon is the command chief warrant officer for the Program Executive Office Aviation at Redstone Arsenal, AL.*

*Editor's Note: We at ARMY AVIATION Magazine thank CW5 Dixon for his support throughout his tenure at PEO Aviation and wish him all the best in the future.*



## WE'VE STOOD WHERE YOU STAND

For five years, Jose Hilario proudly served the United States Marine Corps in various roles including Airframer on CH-46E, Maintenance Control and QAR Inspector.

Today, Jose is our CH/MH-47 Shop Floor Supervisor. The bonds he formed with his fellow Marines taught him how to lead effectively as a civilian; he knows the value of motivating his team so they trust each other and work toward a common quality goal. The same mission, together.

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**Jose Hilario**  
U.S.M.C. 1997-2002



► Sergeant Major of the Program Executive Office Aviation

# NCOs are Shaping Army Aviation

By SGM Carlos Loeza



U.S. ARMY PHOTO

I began my tour at Program Executive Office, Aviation nearly 11 months ago and I continue to be impressed by the scope of our mission.

From handheld quadcopters to the Chinook, the PEO Aviation team touches every Army echelon from squad level to the Corps and beyond. We are focused on developing future vertical lift even as we continue to maintain the readiness and relevance of the enduring aircraft fleet and deliver critical aviation capabilities to our allies. And like the rest of the Army, Noncommissioned Officers have a critical role in our overall mission of designing, developing, delivering, and supporting advanced aviation capabilities for operational commanders and our allies.

NCOs are a relatively new addition to the PEO Aviation formation. They bring credibility and current, real-world experience not only to the PEO but to our industry partners. They are motivated and results oriented, and they have relationships across the maintenance and sustainment fields that can identify solutions to common issues.

The Army assigned these Soldiers to PEO Aviation to provide the end-user perspective on operating, maintaining,

and sustaining Army aircraft in all domains. We have embedded them in the project offices, supporting the O6-level project managers. I'd like to highlight three NCOs and examples of their success.

**SFC Stephen Jackson** is the Senior Enlisted Advisor (SEA) in the Future Long Range Assault Aircraft Project Office (FLRAA). A native of Gainesville, Ga., SFC Jackson is a 15T (UH-60 Helicopter Repairer) with nearly 20 years of aviation maintenance experience.

As the FLRAA SEA he provides input into FLRAA design and development based on his practical, hands-on experience. SFC Jackson collected evidence of the common aviation maintenance issues facing the field and aggregated data from across the total fleet. This data has informed the FLRAA acquisition strategy and could result in significant financial and labor savings across not only Army aviation programs, but the Army and DoD.

SFC Jackson, with Future Vertical

*PEO Aviation hosted CSM James Wilson, Command Sergeant Major of the USAACE, Fort Rucker, AL and Army Aviation Branch, to discuss Virtual Training Suites for the enduring and Future Vertical Lift fleets. PEO Aviation's noncommissioned officers also joined in the conversation for an opportunity to sync efforts across both organizations and share the importance of NCOs working in our project offices. Pictured from left: SFC Eddy Rivera (Cargo SEA), SFC Brandon Vilt (UAS SEA), CSM Wilson, SFC Stephen Jackson (FLRAA SEA), MSG Sean Bailey (AMSA SEA) and SGM Loeza.*

Lift Cross-Functional Team members, the Future Attack Reconnaissance Aircraft Project Office and representatives from Wichita State University's National Institute for Aviation Research, visited the 128th Aviation Brigade in Joint Base Langley-Eustis, Va. The 128th is responsible for all Army aviation maintainer training, except UAS. The team assessed current training programs to develop maintenance training requirements for the FARA and FLRAA programs.

The FARA and FLRAA aircraft maintenance, regardless of vendor, will be extremely electronic/avionics centric. Based on his experience and familiarity with FLRAA, SFC Jackson quickly re-



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## ▶ Enlisted Aviation Soldier Spotlight

*Each month we will feature a past AAAA National or Functional Enlisted or NCO Award winner as part of our ongoing recognition of the Best of the Best in our Aviation Branch. The CY 2021 National winners were featured in the April/May AAAA Annual State of the Union issue.*



APRIL PHOTO

### Aviation Soldier of the Year, 2019

*Sponsored by Bell*

#### **SPC Zackery Packer**

**Company D, 3rd Battalion, 160th Special Operations Aviation Regiment (Airborne)  
Hunter Army Airfield, Georgia**

Specialist Packer's sense of duty, leadership and professionalism set him apart in 2019. As an Avionics Mechanic for Delta Company, 3/160th, his efforts earned him distinction as the battalion's soldier of the year. He travelled to Fort Campbell, Kentucky in April 2019 to compete against the other stellar candidates in the 160th. Specialist Packer regularly earned top marks in all areas, including Physical Fitness tests, day and night land navigation, medical lanes, weapon qualification range, radio communication operations, CBRN, M9 and M240 operation, threat engagements, and combatives. These events were completed with little time to prepare, little time to sleep, and many environmental stressors. Time and time again, Specialist Packer proved that he was calm and efficient under high stress situations, earning the title of Regiment Soldier of the Year. Additionally, Specialist Packer has quickly established a reputation for being one of the most knowledgeable and dependable avionics technicians in the unit, able to expertly support the Regiment's highly modified MH-47G helicopters. SPC Packer's performance has been truly exceptional, and his embodiment of the Warrior Ethos and Army values should serve as inspiration to all Soldiers in Army Aviation and makes him the 2019 AAAA Aviation Soldier of the Year.

His recent maintenance experience contributed to the development of preventative maintenance procedures and practices for tail rotor blade laminates in high corrosion impacted areas such as Hawaii.

**SFC Eddy Rivera**, from Tampa, Fla., enlisted in 2003 and has been a 15U, CH-47 Helicopter Repairer his entire career. As the PM Cargo SEA, SFC Rivera uses his maintenance and flight experience for training, aircraft improvements, and crisis response.

In a recent example, an O-ring with an incorrect material specification was improperly installed on multiple T55 engines used on the H-47 fleet Army wide. The failure of the O-ring resulted in multiple fuel leaks and caused several engine fires. SFC Rivera helped create and validate leak check procedures, maintenance procedures, and recommendations on the written corrective action checklist disseminated to the Chinook fleet.

In another instance, the 128th needed four CH-47 landing gear swivel housings to meet their 15D Aircraft Powertrain Repairer training device to student ratio. These assemblies are in short supply and high demand for the operational force. Each assembly costs \$26,156.46 for a total of \$104,625.24. SFC Rivera's background and experience enabled him to develop an alternate solution. He procured damaged spindles which were deemed irreparable, but adequate for the 15D training and had them delivered to the 128th. The Cargo Project Office is working on acquiring more damaged spindles for the schoolhouse, saving the organization from purchasing the training aids and freeing the supply of spindles for the operational force.

I am excited to be part of this team. The NCOs assigned to PEO Aviation play an important part in our overall success. They add recent and relevant experience; relationships that can overcome obstacles; a sustainment perspective; a can-do culture; and a uniformed presence in a mostly civilian enterprise. Their input to programs like FLRAA, FARA and the enduring fleet will impact future generations of Soldiers and ensure the preeminence of our Branch and Service for years to come.

---

*SGM Carlos A. Loeza is the sergeant major of the Program Executive Office, Aviation at Redstone Arsenal, AL.*

alized a revamp of the training programs is necessary to maintain these aircraft effectively.

Both aircraft structures will be composite heavy. Each will have significant requirements for fiber optics maintenance and repair and have cyber/networking/technology training requirements. The aviation maintenance program of instruction will need adjustment to meet these new challenges.

In the Apache Helicopter Project Office, **SFC Selwyn James** is the SEA. He is a 15R (Attack Helicopter Repairman) with nearly 20 years of experience.

SFC James is pursuing a hands-on approach to his duties and responsibilities. As the NCOIC of the new equipment fielding team, he travels to units across the world to provide operator and maintainer training. In 2022, the office fielded 52 Apache AH-64Es to units in Korea, Ft. Campbell, Ky. and the South

Carolina Army National Guard.

Fielding new equipment provides new capabilities for the operators and leaders while creating new maintenance requirements. SFC James helped provide maintenance training to nearly 1,100 maintainers with all levels of experience. One thing I noticed about the training events was as a "green-suiter," SFC James had instant credibility with the unit, capitalizing on his relationships and their shared experiences.

He has also helped train nearly 400 pilots on the new capabilities provided by the AH-64E V6, as part of the AH-64E Aircraft Series Transition Course and other courses.

SFC James and I participated in a vendor quality assurance visit for the Apache generator. He provided valuable input as part of the Oil Cooled Generator Working Group and participated in requirements development.



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# Army National Guard (ARNG) Airfields: Past, Present and Future

By Ms. Lisa Dodd

**D**id you know ARNG owns and operates 18 military airfields and heliports across the country?

It has been roughly 20 years since Headquarters, Department of the Army (HQDA) began regulating and standardizing Army airfield management and operations, so the purpose, structure, and functions of airfield organizations are still new (relatively speaking) and often misunderstood. All ARNG airfield organizations have a shared purpose: *to provide a safe, efficient, standardized, and regulatorily compliant environment for Aviation operations and training.* By design, Army and ARNG airfield organizations are primarily comprised of Title 5 Department of the Army Civilians. This allows them to provide uninterrupted services to both tenant and transient aircraft year-round, even when units deploy. As outlined in Army Regulation 95-2 *Air Traffic Control, Airfield/Heliport, and Airspace Operations*, standard Airfield Organization functions include: Airfield Management, Airfield Operations, Airfield Safety, Aircraft Services and Fuel, Air Traffic Control (ATC), Air Traffic Equipment and Navigational Aid (NAVAID) Maintenance.

Historically, in the absence of dedicated airfield staff, Aviation units absorbed airfield management responsibilities as additional duties without any specialized training (there is no Army Military Occupational Specialty [MOS] for airfield management or operations). Today there is an Airfield Operations Branch within the ARNG-AV, comprised of six distinct subject matter experts who provide program support to ~200 full-time civilian personnel assigned to ARNG airfields across the nation. The unprecedented program growth generated a paradigm shift in the general understanding of Airfield Organizations, but many misconceptions remain. For example, the belief that a Flight Operations Specialist (inherent to Aviation units) and an Airfield Operations Specialist (inherent to airfield organizations) are the same, when they are distinctly different positions with different responsibilities. Another example is the belief that tenant Aviation units on civil airports are responsible for airfield/airport management. Aviation unit commanders likely have responsibility for the hangar(s), ramp(s), or other infrastructure they occupy, but the full scope of airport services (management, operations, ATC, equipment maintenance, etc.) is performed by the civilian airport authority.

The evolution and growth of the Airfields Program allowed ARNG to place qualified subject matter experts into the




Muir Army Airfield at Fort Indiantown Gap, PA supports the Eastern ARNG Aviation Training Site and the 28th Expeditionary Combat Aviation Brigade. Fort Indiantown Gap supports training for over 130,000 Active, Guard and Reserve Soldiers annually.

Army airport design criteria (e.g., signs, lighting, marking, and pavement), reducing risk and bringing ARNG airfield operations and services to par with Active Army and Army Reserve airfields. Most importantly, ARNG Airfields are far better equipped today to support fixed and rotary wing Aviation, unmanned aircraft systems, ATC training, domestic operations, and mobilization/deployment.

Future objectives for the ARNG-AV Airfield Operations Branch include staffing, training, and integration. The branch continues to actively advocate for necessary staffing to allow ARNG airfields to operate in accordance with mission requirements at a low-risk level. Collaboration is underway with HQDA Deputy Chief of Staff G-3/5/7 Aviation, U.S. Army Civilian Headquarters Agency, and major Army command stakeholders to develop formal training standards for airfield management and operations career fields. To date, Airfield Operations Branch efforts have primarily supported fixed-base airfield operations and associated civilian personnel. Moving forward, they intend to integrate program oversight and advocacy for airfield operations battalions and F-Company (the ATC component of general support aviation battalions) Soldiers. On occasion, ARNG Airfields have been referred to as innovative trailblazers by their active and reserve component peers. The Airfield Operations Branch is committed to continuous program improvement by providing military and civilian airfield operators with the tools and resources they need to succeed.

*Lisa Dodd is the chief of the Airfield Operations Branch, ARNG Aviation & Safety Division, National Guard Bureau, Arlington, VA.*





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# Aviation Success Drives Historic Army Mishap Reduction

By BG Gene Meredith

As an artillery officer, I've always been impressed with the Army Aviation community's focus on, and commitment to risk management and loss prevention. In fact, I'm confident it played a crucial role in helping the Army set a new benchmark.



U.S. ARMY PHOTO BY SSG THOMAS WERT

*12th Combat Aviation Brigade leaders consolidate for the Brigade "Winning Matters" Leader Professional Development (LPD) event at the Wiesbaden Army Airfield, Germany, Sept. 29, 2022.*

In FY22, Army Aviation suffered just four Class A mishaps – the fewest since the Combat Readiness Center began tracking mishap data. The previous lows were five mishaps in FY20 and six in FY00. Not a single active-component Combat Aviation Brigade experienced a Class A in FY22. Although we tragically lost one Soldier to a flight-related mishap, no Aviation crewmember was fatally injured, which was also the lowest in history. The next-best year was FY19, when we lost two Soldiers.

It is not only the number of Class A mishaps we should all be thankful for, but also the Class A mishap rate. Last year, Army Aviation flew 802K hours with an achieved rate of 0.5 Class A flight mishaps per 100K hours — another historic low. The second best year on record was FY20, when we had a rate of 0.63 Class A mishaps for 789K flight hours flown. For many years, a Class A mishap rate below 1.00 was thought to be unattainable. We've now achieved it for three consecutive years (0.63, 0.87 and 0.50, respectively). This

should now be our annual goal.

What should also give us a great sense of accomplishment is how Aviation leaders attacked the fourth-quarter mishap spike. From FY15-19, the Army experienced a disproportionate number – about 40% – of our Class A Aviation mishaps during the fourth quarter, averaging four each year during that span. The Aviation community took on the challenge and managed to eliminate that trend. For two years running, we've experienced zero Class A mishaps during the fourth quarter, and just one in FY20. The takeaway from this success is Aviation leaders understand risk management, both deliberate and real-time, and their management of risk year-round paid huge dividends.

The good news in FY22 wasn't limited to Aviation. The Army recorded its safest year in history with 82 Soldiers lost – 15 to on-duty fatal mishaps, 67 to off-duty mishaps. Off-duty losses were another historic low, but they remain our highest priority to address. While we are trending

downward in these areas, we must all remain vigilant and remember there are people behind every mishap, no matter how catastrophic or minor. The Soldiers we lost in FY22 were fathers, mothers, husbands, wives, sons, daughters, friends, and battle buddies. Their loss drives home the nature of our mission of preventing accidental loss and sustaining readiness.

My first five months as commander of the Combat Readiness Center and director of Army Safety have been incredibly rewarding. I am constantly amazed by the outstanding work of our entire Army team and your commitment to Army safety. While FY22 was a record-setter, we can never rest on our successes and must strive to continue driving all mishaps down to zero.

**Readiness Through Safety!**

---

*BG Gene Meredith is the commander of the U.S. Army Combat Readiness Center at Fort Rucker, AL and the Director of Army Safety.*



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## ► 128th Aviation Brigade Update

# U.S. Army Credentialing in the 128th Aviation Brigade

By Mr. Steven Burge



## New Online Credentialing Program Features



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Army Aviation is soaring through a cycle of modernization. With a focus on upgrading systems, processes, technology, and procedures comes shared success and emerging technologies.

The 128th Aviation Brigade can often be at the center of these upgrades, updates, and improvements so it is critical that as an Aviation Center of Excellence, Soldiers education advances in tandem with advanced military training is made a top priority.

With so much focus on rapid advancement in Aviation, Aviation maintenance instructors find themselves learning increasingly technical skills. In a competitive civilian market these skills have immense value. So, how will our maintainers carry these skills into the civilian workforce and let employers know what skills our service members truly possess?

The Army has offered Tuition Assistance (TA) since the 1950s, this program has proven overwhelmingly successful at preparing Soldiers for their civilian transition, however it is important to capture already learned military knowledge and convert it into civilian education credits as well. To solve this, service members can now utilize technical skills and knowledge gained in service to attain Credentialing certifications through the newly created Credentialing Assistance (CA) program.

On 25 Oct 2022, the U.S. Army launched the Credentialing Assistance program. Using the *ArmyIgnitED* website Soldiers are now able to pursue credentialing classes such as an Airframe & Powerplant license (A&P) and Federal Communication Commission (FCC) certifications in addition to non-MOS related licenses.

At Fort Eustis, this practice is becoming increasingly common, NCOs who are in instructor roles are at the peak of their domain knowledge and often have the time required to take certification courses. In 2021 alone, 76 NCOs from the 128th Aviation Brigade took advantage of the credentialing program and received college credits for their existing knowledge.

Unlike standard practices of the past where Soldiers had to pay out of pocket for training and testing, then request reimbursement, the *ArmyIgnitED* program provides the service member with the ability to receive funding support prior to training and testing. Critically, the A&P certificate is now free to Soldiers, previously it required a costly up-front expense for service members. The process for applying is very easy and user friendly. When the service member sets their sites on attaining a credential, they will create an account on *ArmyIgnitED* then submit an "Education Goal" to receive Credentialing Assistance (CA). Once the requests are submitted, the Army Credentialing Assistance Program Office (ACAPO) will approve, deny, or ask for additional information. Once approved, Soldiers will further refine their choice and select the appropriate MOS or Non-MOS related credential.

It is important to note that Soldiers must apply for CA no earlier than 90 days and no later than 45 days prior to the start date of the course. The Army's Credentialing Assistance program will allow those service members who chose to pursue a technical skill or trade to be competitive with civilian technicians that have comparable experience. This will allow Soldiers separating from service the ability to transition into the workforce at a pay scale equal to the experience they gained while serving in the Armed Forces.

**Born Under Fire!**

*Mr. Steven Burge is the 128th Aviation Brigade Credentialing Manager located at Joint Base Langley-Eustis, VA.*

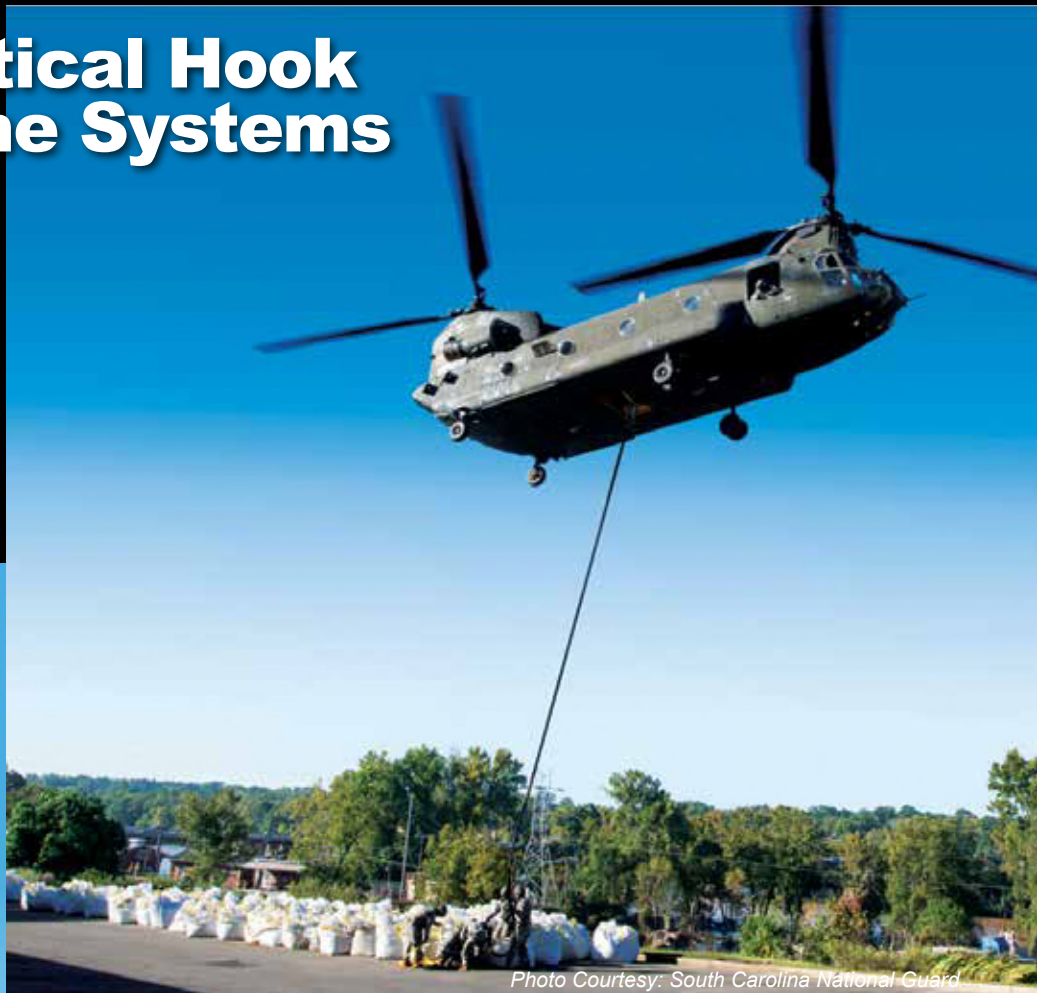




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# Airworthiness and Aerial Rockets

By Ms. Emma Rhonemus

The Hydra-70 family of 2.75-inch rockets has been a long-time companion of Army Aviation.

Development of the Hydra-70 from the first rocket system approved for use on helicopters back in the 1960s paved the way for a new process to ensure airworthiness of weapons systems. Three essential parts make up the Hydra-70 rocket system: a MK66 motor, a warhead, and a rocket pod launcher. This system has nine warhead options that include anti-material, anti-personnel, smoke screening, and illumination. The versatility and cost efficiency of the Hydra-70 weapon system makes it one most used helicopter weapons system in the world. Today, the system is used on over 20 different aircraft.

Helicopters came of age during the Vietnam war, initially used as medevac and for hauling cargo. However, the Army saw an opportunity to use the UH-1 Iroquois “Huey” helicopter in direct combat support. Shortly after, the Army developed the AH-1 Cobra Attack Helicopter to enhance Army Aviation’s capability to provide air support for ground troops. This new mission set created a need for a weapon system that was airworthy. A potential solution was found in the Navy’s 1940s unguided Mk 40 Folding-Fin Aerial Rocket (FFAR), as it could do as much damage as a heavy cannon with less weight and recoil. The modification of the FFAR into Hydra-70 developed airworthiness requirements that informed testing procedure to achieve safe flight testing and fielding.

The process to receive an Airworthiness Release (AWR) for a weapons system is broken down into individual component testing, ground testing, and flight testing. Each step in this process is designed to test the system in a “worst-case” scenario. However, before the weapons system can start this process, an Airworthiness Qualification Plan (AQP) and Specification (AQS) are written to solidify the testing procedures and requirements for integrating the weapons system. The structural integrity, Electromagnetic Environmental Effects (E3), software implementation, Safety Assessment Report (SAR), and environmental testing are all documented at the component level to ensure the system is mature enough for ground testing.

Next, the ground test data feeds launcher transient analysis, software review, life cycle conditioning analysis, gas and debris review, and arena data analysis. Launcher transient analysis checks to make sure the forces of release do not cause the rocket to go errant. Life cycle testing takes a selected number of rockets conditioned in different extreme environments to predict the performance of the rocket after being exposed to non-ideal environments for extended time. Arena data are collected from the debris pattern to assess the surface danger zone, or the radius of which people will be injured from debris.



AH-64 firing Hydra rockets.

Hydra-70 proved this was a critical set of data to check when aircraft were experiencing issues engine issues due to debris and gas being ingested into the engine. The criticality of reducing the amount of gas entering the cockpit was learned to keep pilots safe and the aircraft from rapidly corroding. To remedy these issues, the Hydra 70 Mk66 mod 5/6 had a salt rod installed to reduce exhaust gases and was modified to keep secondary combustion gases from entering the aircraft’s engine.

Finally, the weapons system is ready to prepare for flight testing. A rocket safety assessment and platform safety assessment are required before flight testing along with approved safe escape, safe arm, jettison analysis, and clearance analysis. Safe escape is a set of evasive maneuvers for the pilot to perform to move the aircraft out of harm’s way once the rocket has impacted. Safe arm provides proof that the fuze will arm far enough away from the aircraft to ensure pilot safety. An approval of the rocket’s fuze design is required from the Army Fuze Safety Review Board (AFSRB) and the Ignition System Safety Review Board (ISSRB) to ensure the fuze meets all the required military standards. Jettison analysis ensures the weapon system will safely drop from the aircraft in case of an emergency, while clearance analysis ensures the rockets will not damage the aircraft during launch. Then the matrixing of the weapons system is finalized, which checks the location of the system to maintain the aircraft’s weight capacity and balance. After the weapons system completes this process, it is given an AWR and Material Release review and is ready to be sent out for fielding. Thanks to the lessons learned from the development of the Hydra-70 weapons system, new technologies can be fielded safely.

*Ms. Emma Rhonemus is an engineer in the Industrial Operations and Production Engineering division of the Systems Readiness Directorate of the U.S. Army Combat Capabilities Development Command Aviation & Missile Center. She is located at Redstone Arsenal, AL.*



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## ► Ask the Flight Surgeon

# Allergic Reactions to Insect Venom

By CPT (Dr.) Andrew Glenn and MAJ (Dr.) Jeannie Bay

**Q:** I've been stung by a bee; will I have an allergic reaction that prevents me from flying?

**FS:** Excellent question, insect envenomation has a spectrum of reactions from mild localized skin swelling to generalized anaphylaxis and even possibly death in severe cases. Your reaction will be based on individual genetic factors, history of exposure, time since previous exposure and treatments utilized to desensitize your immune response. However, even with all the above information, it can be challenging for the medical provider to predict who is at higher risk of anaphylaxis. Simply reporting a history of having severe reactions in the past is enough to alarm medical providers to intervene.

Insect venom is biologically designed by nature to enter the blood stream and cause a cascade of cell damage and signaling that causes the local swelling and even the chain reaction response of the body such as anaphylaxis. Anaphylaxis is an acute reaction of the body's immune response to an allergen such as insect venom, food, or medication. Symptoms of anaphylaxis include itching, hives, swelling of throat, angioedema (swelling of lips, tongue, and oral cavity), diarrhea, shortness of breath, wheezing and abnormal heart rhythm.

The best initial treatment for anaphylaxis is a shot of epinephrine (also known as adrenaline) which will quickly abate symptoms and halt the progression of the reaction. However, effects of epinephrine can wear off in as little as 20 minutes which is why it is recommended to present to the emergency room for monitoring and additional treatments with medications such as steroids and antihistamines. Although they do not occur often, 50% of the fatalities associated with insect envenomation typically occur within the first hour, the rest within 6 hours. Understanding of the timing of these signaling pathways is important for the Aviator to understand mission planning in relation to exposure to al-

lergens that have potential in sensitized individuals to cause incapacitation.

**Q: How will this affect the Army Aviators in their ability to complete their mission?**

**FS:** First and foremost, the chances of being stung mid-flight are extremely rare due to the rapid air movement around the aircraft. Prevention is also a key part during preflight checks to ensure no critters have made a home inside the aircraft including building hives in compartments of the aircraft. Proper wear of flight gear will also prevent insects from accessing skin in most cases. In case you are stung by an insect, it is very important to note the timeline of when you were stung as the risk of incapacitation can occur within as little as 3 to 5 minutes.

**Q: If I have a history of a reaction to insect envenomation, could I continue flying?**

**FS:** Mild local reactions only need to be documented in the flight physical and do not require a waiver. For anaphylactic reactions, waivers are usually granted following an immunologist consultation which can include a desensitization trial also known as venom immunotherapy (VIT). It is recommended that VIT be initiated as the likelihood of a future anaphylactic reaction if stung again is 28-74%. The process of VIT is a method of exposing your immune system, through subcutaneous injections, to the select venom of either honeybee, yellow jacket, hornet or wasp. Doses are started at low concentrations, and over multiple visits (known as the build-up phase), the dose is increased to be that of twice the amount that insects could inject, otherwise known as the maintenance dose. Initial immunologist visits for VIT are typically once per week and progressed at the discretion of the immunologist based on patient

response to higher doses. The immunologist and patient may also opt for a faster build-up schedule known as a rush schedule to achieve the maintenance dose more quickly. Once the maintenance level is achieved, normally at 2-5 months, the maintenance dose is administered once every 4 weeks, but can eventually be administered once every 6-8 weeks, or up to 12 weeks per discretion of the immunologist. As it is an injection into the body, temporary grounding for 12 hours after each VIT session is recommended to observe for potential reactions. Maintaining close communication with your flight provider on the progress of VIT will be essential to optimize your flight times and arranging flights around VIT sessions.

VIT is highly effective and can reduce the risk of future reactions to stings from about 60% to less than 5%. The recommended duration of maintenance therapy is 3 to 5 years to achieve long-term desensitization. Once the VIT maintenance dose is achieved and the immunologist documents no reactions to maintenance doses, a waiver can be requested. Your flight surgeon may also consider having you carry anaphylaxis kits, which normally contain an epinephrine auto injector, as an additional precaution to insect envenomation, which in an austere environment can provide you with sufficient time to safely land the aircraft, avoiding incapacitation and mishap.

Fly safe!

### Questions for the Flight Surgeon?

If you have a question you would like addressed, email it to [AskFS@quad-a.org](mailto:AskFS@quad-a.org); we will try to address it in the future. See your unit flight surgeon for your personal health issues. The views and opinions offered are those of the author and researchers and should not be construed as an official Department of the Army position unless otherwise stated.

*CPT (Dr.) Andrew Glenn is a flight surgeon at the School of Army Aviation Medicine, Fort Rucker, AL; MAJ (Dr.) Jeannie Bay is an immunologist at Madigan Army Medical Center, Joint Base Lewis-McChord, WA.*



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*A U.S. Army CH-47 Chinook Helicopter flies in degraded visual environment conditions.*

THALES PROVIDED SHUTTERSTOCK PHOTO

# Confronting an Old Foe: Defeating Degraded Visual Environment for Army Future Vertical Lift

By Yanik Doyon

**A**rmy aviators flying the service's next generation helicopters are sure to face deadly new threats. Future missions will likely force pilots to fly through holes punched in sophisticated enemy air defenses at nearly twice the speeds of today's aircraft. A flood of battlefield data will engulf the cockpit with distractions as they maneuver toward their objective.

On top of these new hurdles, pilots will also have to cope with degraded visual environment (DVE) – a dangerous foe that continues to plague pilot performance. Helicopter pilots encounter DVE while flying in severe weather, smoke, brown-out and white-out conditions. It can easily thwart an aircrew's ability to accurately know where they are in relation to the ground.

"DVE environments are

challenging – aircraft and aircrew performance can quickly diminish, and they can put the crew in a dangerous situation, increasing the chances of crashing the helicopter," said Ryan Walters, a former Army 160th Special Operations Aviation Regiment pilot, who is now the Business Development Manager, Rotary-Wing Programs at Thales Visionix.

"Thales recognizes these challenges and continues to develop modular DVE solutions that enhance combat capabilities while reducing risk to aircrew and other personnel on board." Thales has a long track record of equipping U.S. military combat aircraft with avionics technology. Currently, Thales supports U.S. Army aviation by supplying the Global Navigation Satellite System Navigation

Receiver and software defined Flight Management System for the UH-60V Black Hawk helicopter.

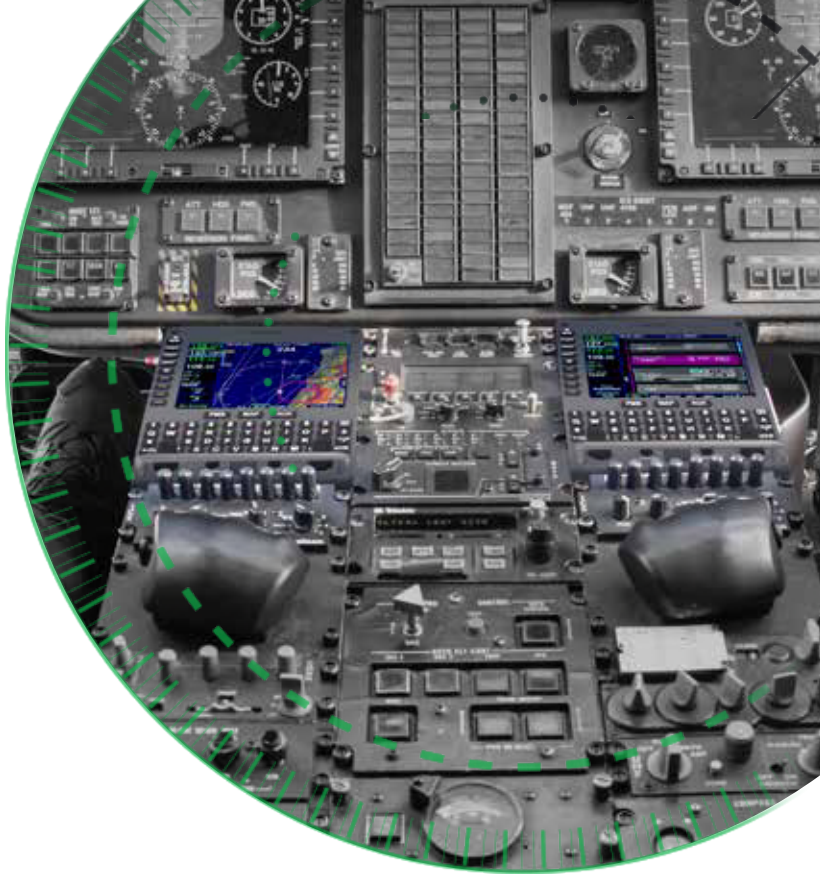
The avionics technology innovator is also supporting the Army's Future Vertical Lift (FVL) effort by offering combat-proven technology to bolster the capabilities of the Future Long Range Assault Aircraft (FLRAA) and Future Attack Reconnaissance Aircraft (FARA). Key to Thales' approach for overcoming DVE are solutions such as a new binocular-style helmet mounted display (HMD) that is designed to offer advanced situational awareness so pilots can fly and fight in the most challenging conditions.

This new HMD, as with all of Thales FVL solutions, will meet the Army's Modular Open System Architecture (MOSA) requirement, which is





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Aircrews from 2nd Battalion, 158th Aviation Regiment, 16th Combat Aviation Brigade staged at Gray Army Airfield, Joint Base Lewis-McChord, WA, prepare the UH-60V Black Hawk cockpit and conduct final pre-mission checks for a nighttime air assault mission.

monocular with augmented reality to provide pilots with real-time, enhanced vision in all conditions.

For FVL, Thales has improved Scorpion's design with a new binocular system to provide pilots with increased depth perception for flying at altitudes of 100 feet and below during night operations. "The Scorpion's monocular allows pilots to view the world in 3D through one eye, but the new binocular system will have two see-through displays in front of the pilots' eyes, giving the operator a wider field of view of the battlefield around them," Walters said.

When teamed with the Thales Synthetic Vision System (SVS), pilots wearing the HMD will be able to see through zero-visibility conditions that occur when rotor blades kick up dust and engulf landing zones in darkness.

The SVS provides pilots with 3D representation of the external surroundings including obstacles and topographical data, allowing them to detect hazards before entering a dangerous situation. "With the advanced Synthetic Vision System integrated into our HMD, Thales is able to support heads-up, eyes-out flight profiles," Walters said. "You can't see anything when you are flying heads-down eyes-in, focusing on two-

intended to allow the service to buy different technologies from various vendors, much like applications downloaded on a smartphone. If the Army chooses Thales' HMD for FVL, it can also be used on the service's legacy fleet of helicopters.

### Advanced Tools for Combating DVE

Thales has long been a provider of HMDs for the U.S. military. U.S. Air Force pilots flying aircraft such as F-16 Falcons and A-10 Thunderbolts currently use Thales' Scorpion HMD. It features a full-color, see-through



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dimensional instrument panels. "If you can look up and see it through SVS, it reduces stress inside the cockpit, and you are more in tune with your environment."

But for HMDs to be truly effective, Walters said, the motion tracking technology has to be as precise as possible to ensure that the pilot's head and eyes are synchronized as he or she looks up, down, left or right. If there is any latency in the motion tracking, pilots can suffer motion sickness at the worst possible moment. "Without precision motion tracking, pilots can become nauseous; if it's even slightly off, you can become completely disoriented," Walters said. "Thales excels at providing exceptional motion-tracking."

Beyond dealing with DVE, Thales' HMD will be critical for coping with the rapid pace of combat missions against near-peer adversaries, allowing pilots to put the most important mission data before their eyes for an accurate depiction of the battlefield.

"Next-generation platforms, like Future Vertical Lift, will be flying at almost twice the speed of existing platforms and the amount of data that must be processed, and delivered to aircrew, is orders of magnitude higher than in the past," Walters said.

## Designed for a MOSA World

It isn't enough, however, just to make high-quality solutions to overcome DVE conditions. Thales recognizes that all FVL solutions must be designed to thrive in the world of MOSA – the Army's strategy to create an architecture of common standards for FVL aircraft that forces defense firms to develop hardware and software solutions that can be teamed with separate vendor offerings.

"Thales has a long pedigree of providing modular avionics capability into an integrated system, so MOSA offers a high level of comfort for us," said Jorge Hernandez, a former AH-64 maintenance NCO with the 82nd Airborne Division's Combat Aviation Brigade who is now the Director of Sales & Business Development for Flight Avionics at Thales.

"We are becoming the app store for many of the key industry stakeholders on MOSA. Even in areas where Thales is offering hardware such as radar or HMD systems, Thales continues to position these products to allow for their respective software to be hosted in the computing environment of the aircraft."

Thales' new binocular HMD is also helmet agnostic, meaning the

technology attaches to the aviator's helmet to give the Army the freedom to keep the current helmet or upgrade to a new system, Hernandez said.

While the Army hopes to field FVL aircraft in the early 2030s, the service's enduring fleet of helicopters will remain in service for many years. Thales has developed its DVE solutions to transfer to the UH-60, AH-64 Apache and CH-47 Chinook.

For Walters, who flew combat missions in Iraq and Afghanistan in challenging DVE conditions, it's an exciting time to be working with Thales to develop advanced HMD solutions for tomorrow's aviators.

"Mastery of the DVE environment will serve as a game-changing capability that the U.S. Army must have," Walters said. "The ability to strike in all conditions, at any given time, will give the Army a decisive advantage on the battlefield."

# THALES

*Yanik Doyon is Vice President for Business Development & Sales, Flight Avionics, North America at Thales.*

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# Using Robust 421® Metal Fiber Media Filtration to Enhance Aircraft System Performance and Reliability

By David Conrad and Mike Sandford



**A** primary cause of failure in aircraft hydraulic, lubrication, fuel, coolant, bleed air and pneumatic systems is particulate contamination and the risks from a failure are significant – increased maintenance costs, loss of aircraft availability or readiness, reduced system performance and aircraft crashes, resulting in risks to human life. The contaminants become entrained in the fluid of the aircraft systems from debris built in during manufacturing processes, ingress from external sources, and those generated during system operation. Aircraft fluids are a repository for contaminants unless some action is taken to eliminate or reduce them to acceptable levels. To survive, aircraft systems must operate reliably under extreme operating pressures, temperatures, vibration/shock, and cyclic flow conditions. Clean flu-

ids enable this reliable performance but in such challenging conditions, standard cellulosic or micro-fiberglass media filter elements often fail. Cellulosic or micro-fiberglass media rely on adhesives to bind the random fibers to maintain structural integrity; however, these filters are prone to media migration and shedding of contaminants under stressful operating conditions such as cold startup that challenges the filter with high viscosity oil flow.

## Drop-In Solution

One solution is the application of filter elements with advanced random metal fiber media to aircraft filtration systems. This is a drop-in solution requiring no modification to the aircraft architecture. Like micro-fiberglass media, the metal fiber media is a porous random laid matrix and can incorpo-

*Left: Diagram of 421® Metal Fiber Media Filter Element Structure Breakdown*

*Right: 421® Metal Fiber Media Filter Elements for the H-60, the AH-64 and the Aviation Ground Power Unit (AGPU)*

rate layers with different fiber diameters to increase depth filtration. Metal fiber media uses metallurgical sintered and mechanically compressed metal fibers, eliminating media migration, and significantly reducing shedding of contaminants. The depth matrix of fine, yet durable metallic fibers creates a stable pore structure that is virtually unchangeable for the life of the filter. The high porosity of the metal fiber media also offers less resistance to fluid flow by minimizing changes in the direction of flow, and its low fluid tortuosity minimizes pressure



drop. Advancements in the drawing of smaller diameter metal fibers and in sintering technology to maintain the robust structure while keeping the material pliable when forming the pleated structure, have moved metal fiber media into the spotlight as a solution. PTI Technologies has put significant R&D investments into process development for repeated manufacturability of metal fiber media, resulting in our proprietary 421® Metal Fiber Media.

The U.S. Army has used micro-fiber-glass fiber media filter element designs for both the Boeing AH-64 Apache and the Sikorsky H-60 Black Hawk fleet of helicopters as well as the Aviation Ground Power Unit (AGPU) since their introduction into service. However, for over a decade the U.S. Army was very unsatisfied with the fluid cleanliness of the hydraulic systems in these aircraft, because of the extreme flight operating conditions, and the impact this has on hydraulic system failures.

PTI Technologies worked in cooperation with the U.S. Army to lead the development and application of metal fiber media to filter fluids in challenging aircraft applications. PTI used its proprietary 421® Metal Fiber Media in the development, qualification, and production of hydraulic filters for the AH-64 and H-60 helicopters as well as the AGPU start cart supporting these aircraft. Using 421® Metal Fiber Media provides superior filtration performance, and enhances system life by providing lower pressure drop and a higher contaminant retention capacity than either woven metallic wire cloth or sintered powder metal filters. 421® Metal Fiber Media is ideal for the filtration of highly viscous, high-temperature, cryogenic and corrosive fluids. It is the highest performing media on the market today and fully customizable to meet any design specifications.

### Army Study Results

After fielding 421® Metal Fiber Media filter elements for the AH-64, H-60 and AGPU, the U.S. Army has conducted several studies to ensure they were seeing the level of performance they desired. One analysis conducted on sixty H-60 aircraft over a two-year period at Fort Rucker, Alabama showed that after the installation of 421® Metal Fiber Media filters in the hydraulic system the Mean Time Between Failures (MTBF) doubled for critical components such as the hydraulic

pump and primary servos and over a 50% increase in MTBF for Stability Augmentation System (SAS) actuators. The U.S. Army estimated that this performance improvement could save \$4M per 100 flight-hours if the metal fiber media elements were applied fleet-wide. A recent performance analysis of metal fiber media in the AGPU application showed that in some cases, the hydraulic fluid reached the Class 0 level of cleanliness – an unheard-of level of cleanliness. PTI's 421® Metal Fiber Media filtration technology is performing as designed, resulting in the issuance of an Aviation Maintenance Action Message (AMAM) to convert both the AH-64 and H-60 current fleets to metal fiber media filter elements in the next three years.

### Testing Methods Refinement

In parallel to the development of metal fiber media filter elements, further studies by PTI and a team of engineers at Fort Rucker realized that the test methods used to qualify current filter element designs (MIL-F-8815) in the test lab, did not come close to matching the extreme conditions filter elements will see in the field. The U.S. Army engineers worked with the SAE A6 Filtration Committee, filter manufacturers like PTI and test laboratories to develop improved filter element test standards MIL-DTL-8815/31(AV), MIL-DTL-8815/32(AV) and MIL-DTL-8815/33(AV). The intent of these new standards is to evaluate filter elements under conditions that more closely resemble the operating conditions found during flight operations. This improved testing methodology combined with the field performance of metal fiber media clearly demonstrates that metal fiber media filter elements make a real difference – in performance, reliability and safety.

### Market Expansion

With our proven use on military platforms in hydraulic, bleed air and coolant applications, PTI is now bringing 421® Metal Fiber Media filtration technology into the commercial landscape for bleed air, fuel, engine, and other aircraft filtration applications. We are currently in conversation with multiple airframe and engine OEMs and establishing partnerships for the future of this innovative solution. We are already applying 421® Metal Fiber Media to new high-temperature

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*Mr. David Conrad is the VP of Business Development and Mr. Mike Sandford is the Engineering Manager, Elements at PTI Technologies located in Oxnard, CA.*



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# USASOAC Successfully Tests HARD-20 Lifteraft Via Air Drop from MH-47 Chinook

By Greg Yerks



**R**ecently, elements of the U.S. Army Special Operations Aviation Command (USASOAC) conducted a live overwater training event at Joint Base Lewis-McCord (JBLM), WA. USASOAC utilizes a 20-man life raft system (HARD-20) developed by Life Support International (LSI) during any overwater mission. The HARD-20 system has now been in use by USASOAC for over 15 years.

In 2008, LSI was tasked by USASOAC to design a system for use in their most demanding environments without interfering with critical overwater operations – resulting in the HARD-20; a life raft system so unique yet simple in design, featuring a rugged hard shell canister, vacuum packed 20-Man life raft, quick-release harness, multiple deployment modes, easily transportable, minimal to no maintenance and 3 year service cycle. The HARD system significantly increases the survivability of the aircrew, adds mass casualty rescue capability as well as provides significant return on initial investment with the added protection to the raft, decreased maintenance, and increased Service Life. Since the initial design and fielding efforts, the HARD-20 system has been upgraded to include either the legacy LRU-15 raft or the new MPLR-20 raft. Additionally, the HARD-20 can be easily modified to suit a variety of airframe

environments, either helicopter or fixed-wing requiring multi-place life rafts to conduct overwater flight operations.

LSI's relationship with USASOC was established more than 20 years ago via U.S. Army PM Air Warrior at their annual ALSE conference, hosted every summer at the Redstone Arsenal in Huntsville, AL. Representatives from both organizations met and discussed problems with 160th Special Operations Aviation Regiment (Airborne) (SOAR(A)) existing liferaft inventory stored in fabric bags getting damaged and storage locations inconvenient for mission readiness. After numerous visits and trial installations, LSI's design efforts culminated in several sizes of HARD systems being used in a variety of storage locations on board both MH-60 Black Hawks and MH-47 Chinook helicopters for multiple mission configurations.

On Tuesday, June, 21, 2022, USASOAC tested the HARD-20 Lifteraft System using the Static Line method of deployment by airdropping the HARD-20 into the water at an altitude of 10 feet and forward airspeed of 10 KIAS. In order to verify the ruggedness of the system, the HARD-20 selected for this live event had been used in the field for over 3 years, flown on numerous missions, and was due to be turned in for periodic service/inspection. The HARD-20 system performed flawlessly, and the test proved

*Left: The LSI HARD-20 being deployed from an MH-47.*

*Right: The LSI HARD-20 stowed aboard an MH-47.*

the durability of the system, that multiple methods of deployment are available, and in a Manual deployment mode, that the system actually floats on its own prior to deployment/activation of the life raft.

LSI is proud to support the elite aircrew and support teams of USASOAC, whose mission is to organize, equip, train, and employ Army special operations aviation forces worldwide in support of contingency missions and warfighting commanders. The professionalism and capabilities of Army special operations aviation are developed through a "train as you fight" mentality. This extensive, realistic training is the foundation of unit combat readiness.

Furthermore, LSI is grateful to the U.S. Army Product Manager Air Warrior office for providing a venue for equipment manufacturers and customers to meet and discuss current issues related to safety and survival.



*Mr. Greg Yerkes is President of Life Support International, Inc.*





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**ARMY AVIATION** Magazine's Industry Partners Directory is a paid advertising section of **ARMY AVIATION**'s world-wide, year-round reference for individuals and organizations engaged in the overall field of U.S. Army Aviation. The organizations are listed by the following categories: Consultants/Special Services, Educational, Maintenance and Product Overhaul, Manufacturing, and Other Services. This year we are recognizing Companies that are current AAAA Members, Advertise in Army Aviation Magazine and donate to the Scholarship Foundation. Thank you for your continued support!

Any firm that wishes to be included in next year's Industry Partners Directory should contact Erika Burgess at Army Aviation Publications, Inc.; Telephone: (203) 268-2450 or email: [erika@quad-a.org](mailto:erika@quad-a.org)

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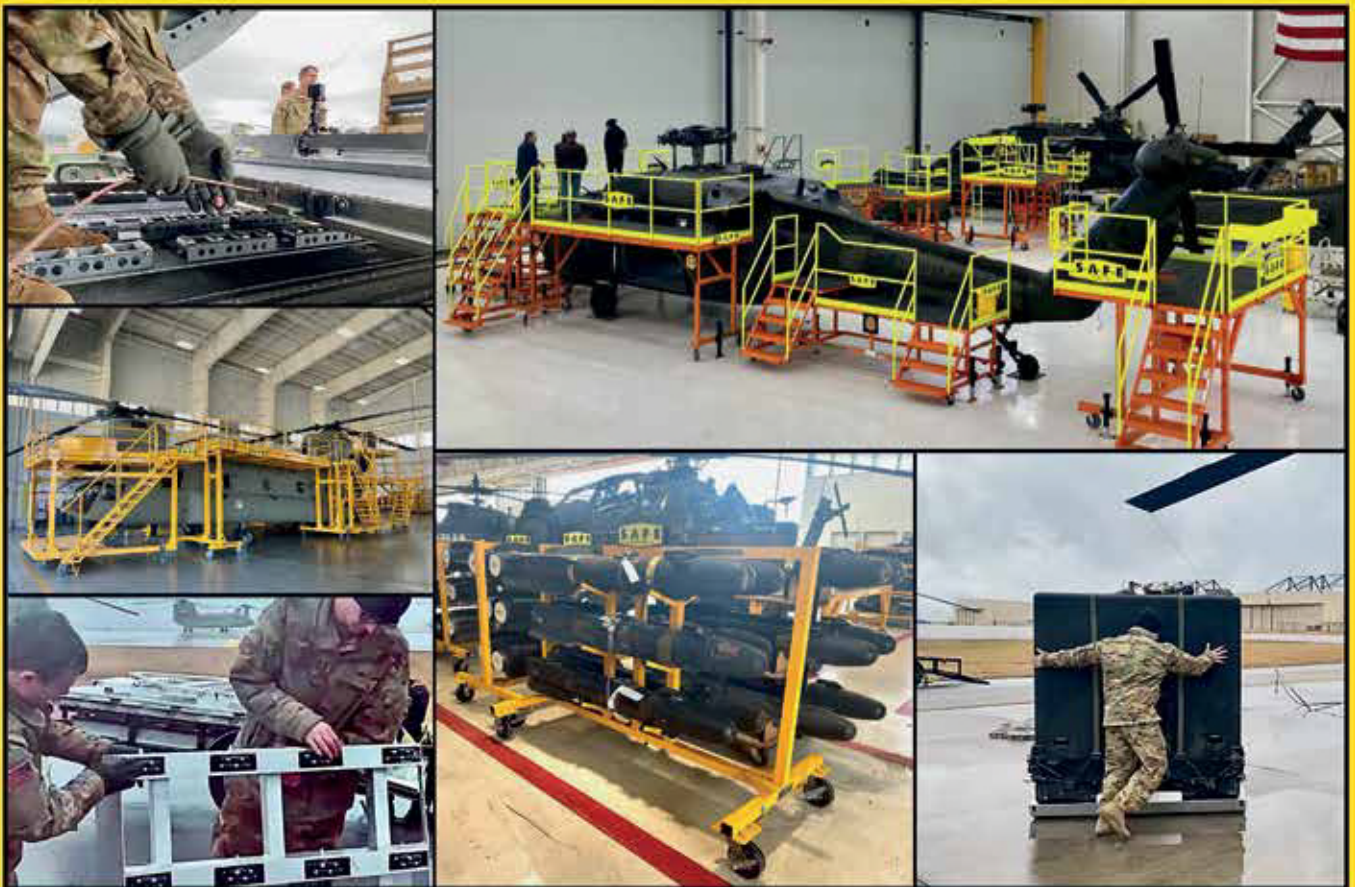
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# Another Fantastic Year for Army Aviation!

By Mr. Jeffrey Langhout

**A**nother fantastic year for our branch as I see it from my chair as the director of the U.S. Army Combat Capabilities Development Command Aviation & Missile Center (DEVCOM AvMC).

Why do I think it has been an awesome year and more so, why am I excited for our future? Here's my case.

First, I point you to the other articles in this month's edition where you can read a more detailed perspective on aviation technologies, airworthiness, System Integration Labs, postproduction software support, and how we are getting after Modular Open Systems Approach (MOSA).

Second, it's been such an honor to be a super tight team with our Future Vertical Lift Cross Functional Team (FVL CFT) brethren as MG Wally Rugen continues to lead in pushing the envelope with experimentation so our Army can develop right and realizable aviation requirements in support of the combined arms fight.

One of those areas of experimentation, Air Launched Effects, brings so much capability to our Army. It seems like every week we think of something else ALE could do to get after our enemy. Speaking of ALE, I should probably start using the term "launched effects," as we are launching these assets not only off aviation assets but ground assets as well, providing more dilemma for our enemy. The intelligent teaming, while highly complex, is making progress each day as the "wolf pack" mentality continues to mature. What is more encouraging about the advanced teaming work being executed by the AvMC is the government-owned open architecture that allows industry to integrate their products into our software. This expands the solution space while also maintaining required government software rights.

## Supporting Key Customers

Third, the AvMC team continues to be honored to support our key customers across the aviation materiel enterprise. Across our customer base, AvMC engineers and scientists are making a difference for our Army every single day. As we support our Program Executive Office Aviation customer, every day our airworthiness engineers and functional engineering experts are in the middle of all the design reviews, test readiness reviews, in-process reviews, early statement of work preparations, system safety reviews, and in the factories and the depots supporting production.

As we support our U.S. Army Aviation and Missile

Command (AMCOM) customer, we are honored to be leading in advanced manufacturing (AM) technology as we assist them in the writing of AM policy in support of Army aviation. While there are important strides being made every day in AM, there is still much research and engineering to be done before we have recognized standards for all the material properties that will ensure fatigue lives for our most critical parts.

Each day our liaison engineers that are co-located with the Army's combat aviation brigades (CABS), the Aviation Center of Excellence, the Aviation Classification Repair Activity Depots (AVCRAD) and with our 160th partners, are solving hard problems in real-time allowing aircraft to fly that same day. These are special engineers perfectly integrated into those formations directly affecting readiness 24/7.

## Looking Ahead

As we look ahead, I think the next fight will really require us to have autonomous aviation in support of contested logistics and thus we are working hard with our Defense Advanced Research Projects Agency (DARPA) partners, and all types of industry, to develop the capabilities to give our Soldiers the option to send in uncrewed aircraft in support of the logistics mission. Pilotless Black Hawks were demonstrated just this year. There will be endless options for small uncrewed aviation systems. I think the technology is largely there depending on how robust the requirement may be, but we must develop the concepts, resource the experimentation, and then resource the systems engineering and integration efforts so we can develop realizable requirements and get this capability to our Soldiers.

So, whether it's the awesome work ongoing each day as Army aviators do our nation's business here and abroad, or the excitement about our new aircraft coming online soon, or the limitless dreams of how we will use air launched effects and uncrewed systems, aviation is exciting, it's fast-paced and it continues to be critical path to the security of our nation. I think I have made my case for why it's been an awesome year and more so, why I am excited for our future.

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Above the Best!

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*Mr. Jeffrey Langhout is the Director, DEVCOM AvMC at Redstone Arsenal, AL.*



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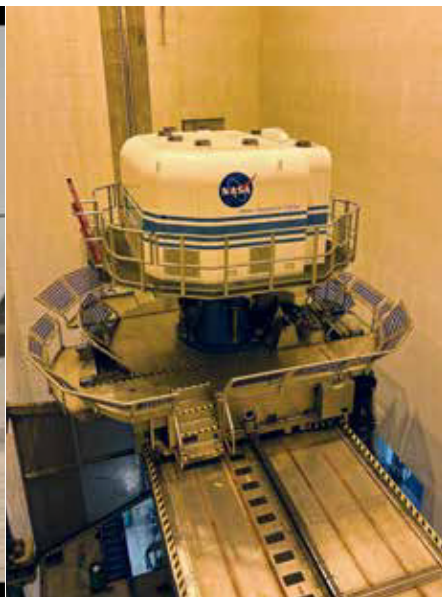


# Army Aviation S&T – New Developments in Army Aviation

By Ms. Christi H. Dolbeer and Mr. Carvil E.T. Chalk



U.S. ARMY PHOTO BY MR. JOSE MELIA-BETANCOURTH



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**T**he U.S. Army Combat Capabilities Development Command Aviation & Missile Center is forging the future for Army Aviation with a world-class team of brilliant rotorcraft scientists and engineers spread across the country. This dedicated team works closely with aviation industry partners and is actively involved with the Vertical Flight Society; works with government partners including NASA, Air Force and Navy; collaborates internationally; and works with academia through the Vertical Lift Research Centers of Excellence program, which include Georgia Institute of Technology, Pennsylvania State University and the University of Maryland. The VLRCOE programs provide the added benefit of supplying government labs and the aviation industry with the next generation of rotorcraft scientists and engineers. DEVCOM AvMC takes maximum advantage of Other Transactional Agreements, Partnership Intermediary Agreements, project agreements, Cooperative Research and Development

Agreements, Small Business Innovative Research programs, and In-House Laboratory Independent Research agreements to promote aviation research and development in support of our science and technology efforts.

Current Army aviation S&T efforts are focused on meeting user community needs by making capability improvements for multi-domain combat operations to support both Army and joint forces. Aviation S&T transitions are focused on next generation aircraft including Future Long Range Assault Aircraft, Future Attack Reconnaissance Aircraft (FARA), Future Unmanned Aircraft Systems (UAS), hardware and software architectures that support a Modular Open Systems Approach, and computational fluid dynamics-based modeling and simulation both for the enduring fleet as well as to inform Future Vertical Lift (FVL) requirements. AvMC works closely with the FVL Cross Functional Team and Program Executive Office, Aviation, as well as the Aviation Capability Development and

*ALE launched from a UH-60 during Army Futures Command Experimental Demonstration Gateway Event 2022 (EDGE 22).*

*NASA's Vertical Motion Simulator (VMS) facility during Advanced Rotorcraft Configurations Testing of Increased Capabilities (ARCTIC-2) simulation.*

Integration Directorate at Fort Rucker as they assess user needs and develop corresponding requirements that guide our technology investments. Major S&T projects include Air Launched Effects (ALE), Advanced Teaming, FVL Radar, High-Speed Maneuverable Missile, Experimental and Computational Aeromechanics, Holistic Situational Awareness and Decision Making, and Integrated Mission Equipment (IME).

#### **Mission Systems Advancements**

Through the Holistic Situational Awareness and Decision Making (HSA-DM) project, AvMC is working to identify cognitive workload drivers that soldiers will encounter on the



future multi-domain battlefield while flying vertical lift aircraft that are faster and more maneuverable than anything out there today. AvMC and its partners study crew responses through biometric workload indicators, human machine interface assessments, and the effectiveness of data management strategies during simulated missions in a laboratory environment. The results are used to identify areas for automation to decrease cognitive workload for soldiers.

In our IME program DEVCOM AvMC is enabling the rapid and affordable integration of avionics hardware and software by leading an effort to make the Modular Open System Approach (MOSA) an integral part of the Aviation Systems Engineering process. AvMC works closely with the Program Executive Office for Aviation's MOSA Transformation Office and Future Vertical Lift programs to define the processes and tools necessary to achieve the business goals that only the proper implementation of MOSA can attain throughout the lifecycle of a weapon system and across a family of systems. AvMC is also pursuing a digital backbone to enable integration of emerging technologies and Mission Equipment Packages (MEP) without the need for major redesign or substantial modifications to either the MEP or aircraft.

### ARCTIC Demonstration

AvMC teams at the NASA Ames Research Center are utilizing the Vertical Motion Simulator (VMS) to experiment with FVL air platform configurations and related flight controls technologies. Advanced Rotorcraft Configurations Testing of Increased Capabilities does not actually take place in the Arctic, but rather is a series of piloted simulations in the VMS where both experimental test pilots and operational pilots conduct mission scenarios and provide a critical soldier touchpoint feedback on flight control laws, inceptors, and cockpit displays. These Army pilots assess handling qualities requirements and mission effectiveness for both Future Long-Range Assault Aircraft and FARA. The results substantiate our models and simulations, inform FVL requirements, and are being shared with our partners.

### Hover Validation Experimentation

AvMC is collaborating with NASA on a joint rotorcraft hover test in the Na-



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tional Full-Scale Aerodynamic Complex (NFAC). The goal of this benchmark hover test is to collect validation quality data. The test is groundbreaking in its use of extensive conventional and advanced measurement techniques (including infrared thermography for boundary layer transition measurement, photogrammetry for blade deflection and large field of view shadowgraphy to document the rotor wake geometry). The rotor is a publicly available geometry which enables the entire rotorcraft community to use this data for validation of modern computational hover prediction methods, which will benefit future civilian and military rotary wing vehicles.

### Electrification

An emerging area of interest for Army aviation S&T is air platform electrification. Goals include reducing weight, vibration and thermal signature, as well as reducing dependence on fossil fuels in support of Army climate change initiatives. Primary goals include sub-system electrification, supplementing aircraft electric power, emergency power, electrifying the drive train, and even the potential to replace hydraulic flight control actuators. All-

electric main engine propulsion is also of interest and potential Army use cases will need to be carefully evaluated. Further investigation will be needed to assess safety, reliability, platform integration and airworthiness. AvMC will continue to partner with the Air Force, through their Agility Prime program, and industry to advance the state of the art for aviation electrification.

The DEVCOM AvMC Aviation S&T team continues to serve as the Army's aviation subject matter experts who collaborate with other services, Army agencies, industry and academia to execute our S&T mission and transition cutting-edge technologies most effectively to PEO Aviation and across the rotorcraft community. We remain firmly committed to pushing the aviation technology envelope to give our Soldiers every possible advantage both above and on the battlefield.

*Ms. Christi H. Dolbeer is the director and Mr. Carvil E.T. Chalk is the deputy director for Aviation Technology, both at the Technology Development Directorate, DEVCOM Aviation & Missile Center, located at Redstone Arsenal, AL.*



# Priorities for FY23 Airworthiness Investments

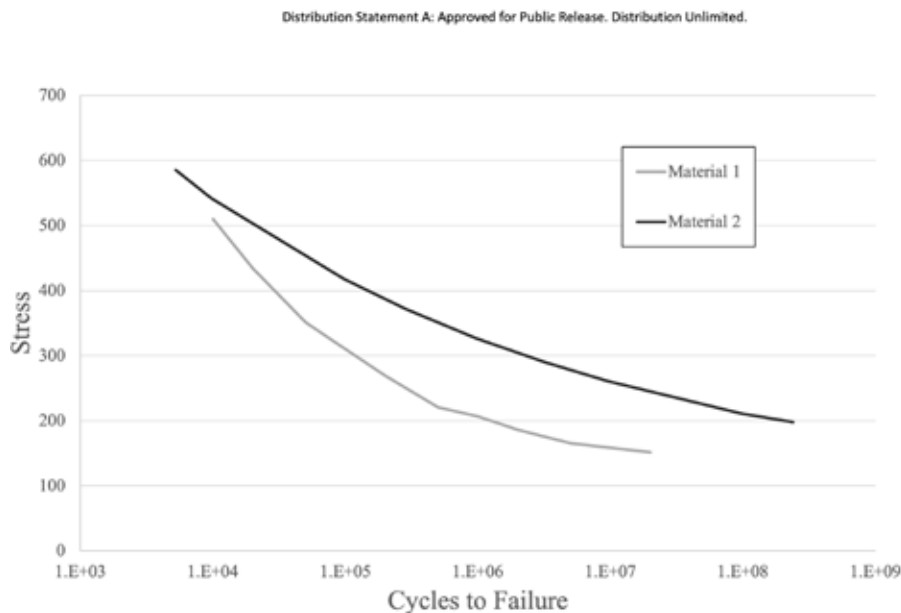
By Mr. Keith R. Darrow

**T**he World War II veteran and prolific former University of Notre Dame fundraiser Dr. James W. Frick, deceased, was quoted as saying: “Don’t *tell* me where your priorities are. *Show* me where you spend your money and *I’ll tell* you what they are.”

As a life cycle engineering support activity, the Systems Readiness Directorate (SRD), which falls under Army Futures Command and the Combat Capabilities Development Command (DEVCOM) Aviation & Missile Center, doesn’t have access to much discretionary funding. Rather, nearly all SRD’s funding, intended for very specific purposes, is provided by our customer base, primarily comprised of the U.S. Army Aviation and Missile Command and dozens of aircraft and missile project management offices. Hence, any additional funding that becomes available for investment to enhance our technical capabilities is truly precious. Accordingly, we have developed a rigorous proposal screening and prioritization process (a.k.a., “murder board”) to ensure that these limited funds are programmed toward the most critical needs. Within this year’s update article, allow me to show you a few representative examples of where we’re planning to expend those funds during fiscal year (FY) 2023.

### Mission Imperatives

Three years ago, SRD was founded to assure airworthy, ready, and sustainable aircraft and missile systems. On behalf of the Army Airworthiness Authority, SRD maintains airworthiness engineering cognizance over nearly all Army aircraft. SRD engineers also provide critical support for the material release process for both aircraft and missile systems.



**Material allowables data includes curves such as this characterization for fatigue failures.**

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Within all our interdisciplinary technical areas, SRD is blessed with very talented people who frequently have great ideas for improving our technical capabilities and better posturing SRD to support the integration of advanced technologies into Army combat systems. During FY23, we will invest in several of those ideas, including development of material allowable characteristics for additively manufactured metallic materials, a new aircraft handling qualities handbook, airworthiness standards for electric propulsion aircraft, and a new standard for model-based assessments of multi-core processors.

### Material Design Allowable Curves

To facilitate the broader adoption of advanced manufacturing technologies for

Army aircraft and missile systems, SRD is developing “design allowables” for additively manufactured metallic materials. Material allowables are statistically based material properties (e.g., ultimate tensile strength, yield strength, stress/strain modulus) used during the design process for both commercial and military applications. Many test specimens are needed to establish material allowables. Once established, allowables become a critical enabler for product designs.

After assuring a repeatable additive manufacturing process for a selected metallic alloy, SRD will collaborate to comprehensively test and statistically validate static and fatigue material properties, and then create the material allowable curves. Afterward, an academia partner will validate the material speci-



fication to confirm its repeatability and potential applicability across industry.

### Airworthiness Standards

A multi-year collaborative effort to update the aeronautical design standard for military rotorcraft handling qualities is just now culminating with the initial publication of the MILDTL32703 Handling Qualities Specification. However, during the update process, it became apparent that a companion Military Handbook was also essential to capture and consolidate information from legacy technical reports and flight test guides. In conjunction with counterparts from the other U.S. military services, SRD engineers are finalizing technical content for the new Handbook and will then solicit pre-publication reviews from industry partners.

SRD will also collaborate to develop airworthiness criteria, standards, and methods of compliance for hybrid electric aircraft propulsion systems and electric vertical takeoff and landing (eVTOL) aircraft. Within the civil aviation sector, aircraft manufacturers have invested heavily in eVTOL technolo-

gies. In concert, the Federal Aviation Administration and industry technical standards committees are working to expand airworthiness certification approaches for eVTOL aircraft. To prepare for the eventuality of military requirements for eVTOL technologies, SRD is partnering with peer airworthiness practitioners to develop standards. As the technologies mature, information will be propagated through new industry standards and updates to the Army Military Airworthiness Certification Criteria (AMACC).

Additionally, SRD software airworthiness engineers will now collaborate with industry partners to develop a practical standard for assessments of future implementations of multicore processors (MCP). This new standard will enable modular, adaptable, reusable qualification approaches suitable for all phases of the Aviation MCP software design process.

### People First

Consistent with the Army's foremost priority, People, SRD leverages every investment opportunity – including all of

those described above – to support the continuing professional development of our Department of the Army Civilian technical workforce. Two of the Directorate's strategic lines of effort, Life Cycle Engineering and Talent Management, synergistically coalesce around each capability enhancement project to further grow the technical knowledge, skills, abilities, and experience that resides within our invaluable people. As is also true across the entire Army, at SRD our people are definitely our greatest asset.

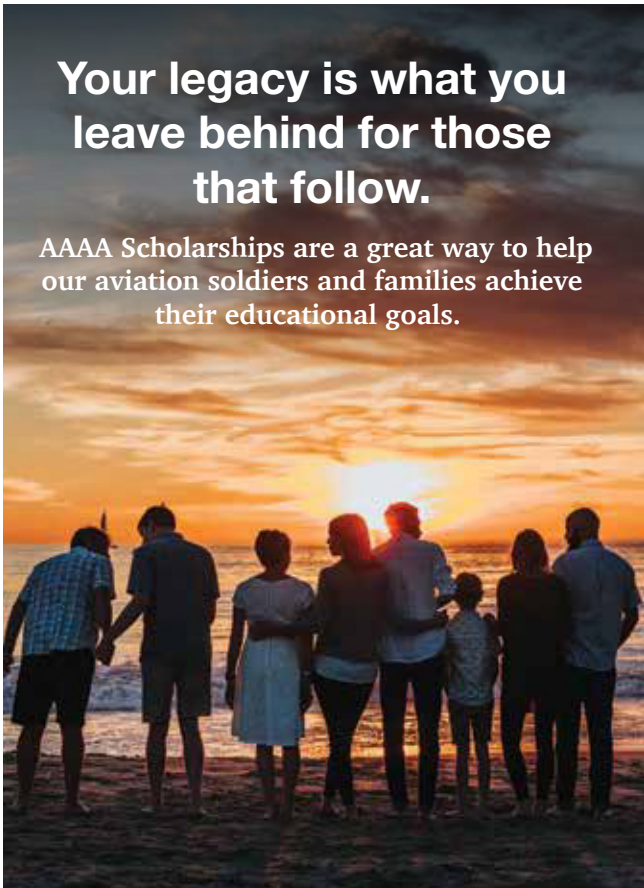
On behalf of the Army Civilians that comprise SRD, I assure the Army Aviation community that we will reap all possible benefits from these investments to enhance our technical capabilities and we will continue to provide responsive interdisciplinary life-cycle engineering support for Army aircraft and missile systems.

Above the Best!

*Mr. Keith R. Darrow is the director of the Systems Readiness Directorate, Combat Capabilities Development Command Aviation & Missile Center, located at Redstone Arsenal, AL.*

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# Army Aviation Life Cycle Software and Systems Engineering

By Scott Dennis, Doug Anthony, and Amber Marsh



**A** rmy Aviation is undergoing a transformational modernization, not only in our aircraft, but also in the ways we acquire and sustain them. As a research and development organization within the U.S. Army Combat Capabilities Development Command Aviation & Missile Center, the Software, Simulation, Systems Engineering and Integration Directorate provides technical expertise in life cycle software and systems engineering to the product managers at Program Executive Office, Aviation by:

- Establishing and operating Aviation Systems Integration Labs to conduct independent government testing of Aviation platforms and systems throughout the product life cycle;
- Defining and establishing standards for a Modular Open Systems Approach that changes the way we specify, acquire, and sustain Army systems and software; and
- Bringing automated tools to bear on the ongoing development, testing and sustainment of mission-critical

*Dong Tran, lab manager for the U.S. Army Combat Capabilities Development Center Aviation & Missile Command Helicopter Engineering Laboratory Interoperating Extensibility Lab, demonstrates the technology available in the new workspace.*

software to levels of rigor required by safety and airworthiness standards.

The Army's future fleet will bring new challenges to the technical approaches and laboratory assets the Army will need to anticipate and overmatch the future threat.

#### System Integration Labs

Experience with the enduring fleet has long demonstrated the value of maintaining aircraft-representative test assets in support of development, modernization, and sustainment. S3I's Aviation Systems Integration Labs provide life



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cycle support to Army rotary-wing and unmanned aircraft platforms, from initial development and fielding, through modernization and upgrades, to post-deployment and post-production sustainment and support. The SILs provide aircraft-representative test platforms for integration of new and upgraded hardware and software, allowing systems developers and integrators to test and verify changes to functionality using real systems on actual aircraft early in the development process. In addition, they serve as accredited aircraft surrogates for interoperability and cybersecurity certification, facilities enabling rapid response to trouble reports from aircraft in the field, and accessible laboratory assets for the development and test of Aviation support systems and software.

Our future fleet aircraft, including Future Long-Range Assault Aircraft and Future Attack Reconnaissance Aircraft, are going to need SILs when the time comes. Our legacy aircraft have preceded the SILs that support them. “Developing a SIL” meant reconstituting an existing airframe around the tactical components and wiring harnesses used in the actual aircraft. Until we have a FLRAA aircraft, we cannot build a “FLRAA-representative” SIL. That does not mean we can be idle in the meantime. We are actively engaged with the program managers to understand, prepare and be ready for the future that is coming, however different it may be.

### Modular Open Systems Approach

The Army simply cannot afford to develop, qualify, and sustain the same functionality over and over again for each

of its Aviation platforms. Hardware and software need to become modular and reusable across platforms. The Army is taking a Modular Open Systems Approach to the specification and acquisition of future Aviation systems and software. The MOSA initiative promoted by PEO Aviation seeks to define and refine business and technical objectives, develop architectural standards and standardized processes, inform requirements and evaluate technologies for incorporation into new and evolving Aviation platforms and systems.

MOSA offers multiple benefits up-front: aircraft sharing similar architectures can re-use hardware and software across platforms, and modernization efforts for one aircraft can be applied across all platforms. However, the larger benefits to MOSA will be realized most clearly after the system is deployed. An effectively applied MOSA results in reduced total ownership cost and modular and open systems that can be quickly customized, analyzed, modified, extended, and qualified or certified throughout the product life cycle in response to changing user requirements and technology obsolescence management or advancement.

MOSA is more than an initiative. To fulfill the MOSA objectives, the Army needs to establish a representative avionics system supporting multiple aircraft platforms sharing a common open-systems architecture. The RAS facility will enable conformance analysis for Aviation subsystems and components, verification of planned capabilities and modularity, and evaluation of alternative source components ahead of their integration into Army aircraft.



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While SILs provide aircraft-representative test assets for specific Aviation platforms, the MOSA RAS enables a common open-systems architecture that serves multiple platforms. These are necessarily different: we need a generic architecture, but there is no such thing as a generic aircraft. MOSA will need its own integration labs, different from what we have today, both to meet the needs of our future vertical lift aircraft when they arrive, and to prepare our enduring fleet for future upgrades that incorporate MOSA components and software.

### **Post-Deployment Software Support/Post-Production Software Support**

Army aircraft are competitively procured, yet sustainment of Army aircraft throughout a life cycle that spans many decades is much less competitive, often favoring the original equipment manufacturer as a single source. Sustainment and support of Army systems and software through Post-Deployment Software Support and Post-Production Software Support drives the much larger overall life cycle costs of these systems. In addressing future sustainment efforts, the Army stands to gain its greatest cost benefit.

To this end, the Army is taking on a larger role in the PDSS/PPSS of its Aviation systems and software, establishing a diverse portfolio of software development and test laboratory environments around mission-critical software, aggregating and integrating software development and test automation tools to perform software verification at multiple levels of fidelity, and producing and delivering objective evidence at a level of rigor to satisfy Army airworthiness qualification criteria similar to DO-178C and DO-330 standards for commercial aircraft. Raising the bar on our own processes will enable the Army to become a level-partner with industry in the sustainment of Army aircraft, aircraft systems, and software. Getting there will require “integration labs” of a different kind – for testing and verification of software itself, for testing on isolated components, for testing on integrated systems, and for testing as elements of a system of systems.

Going down the path ahead, MOSA, SILs and PDSS/PPSS are no longer isolated efforts serving different purposes. They become multiple facets of a common objective – a convergence among modular, open systems initiatives, aircraft-representative test assets, and system and software sustainment practices that will benefit the Army for years to come. With our FVL platforms, we will see aircraft that are very different from what we are flying today – aircraft that benefit from technological superiority to ensure overmatch against our adversaries. Before these aircraft are flying overhead, we will be making equally significant changes to the way the Army does business to ensure that the systems we develop today continue to meet the Army’s needs fifty years from today – capitalizing on our technological advantages, however much our adversaries and the world around us may change during that time.

---

*Scott Dennis, Doug Anthony, and Amber Marsh are assigned to the U.S. Army Combat Capabilities Development Command Aviation & Missile Center Software, Simulation, Systems Engineering and Integration Directorate at Redstone Arsenal, AL.*

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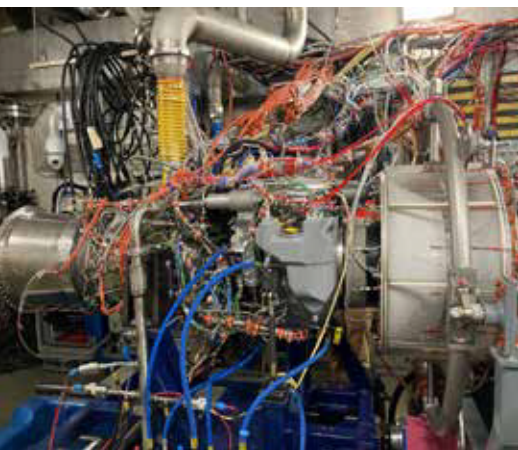


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# Aviation Turbine Engines Focuses on People First

By Gina Bublitz and Cindy Mitchell



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U.S. ARMY PHOTO BY SGT JASON GREANES



**A**rmy Chief of Staff, General James McConville defines people as the Army's number one priority and the Aviation Turbine Engines (ATE) Project Office continues this focus of people first in ensuring the engines we develop and sustain contribute to platform survivability in terms of the aircrew. Survivability is described in the Army's Capstone Operations Manual FM 3-0 (October 2022) as "a quality or capability of military forces which permits them to avoid or withstand hostile actions or environmental conditions while retaining the ability to fulfill their primary mission," or how the equipment allows the Soldier to continue the mission while under attack. ATE provides engines to Army Aviation that are designed with safety in mind, with controls in place to support aircrew survivability and mission accomplishment to protect the Army's top priority, its people.

ATE manages three of the Army's Aviation turbine engines, the T700, the T55 and the T901. The Army chose the T901 to replace the T700 in the Black Hawk and Apache and for the Future Attack Reconnaissance Aircraft. All three engines have common enhanced safety features which increase survivability of the aircrew to include engine and rotor overspeed protections and engine

ingestion tolerance. Minimizing infrared signature and enhancing the ballistic tolerance of the engines are aspects of aircraft survivability that also serve to improve the aircrew safety and survivability.

Many variables can cause overspeed of engine, or overspeed of rotor which occurs when either the engine or rotor moves beyond design limits. In engines this may be caused by part breakage, engine malfunction, incorrect sensor input or even human error. Rotor overspeed may occur if the rotor is forced to turn too fast by high-speed airflow, it experiences a governor failure or if it becomes decoupled from the engine. The advanced controls included on each engine provide basic engine power management. This enables a pilot to focus on successfully overcoming an emergency rather than dividing their attention between the emergency and the routine power management tasks of flight operations.

Engines may experience an emergency event called ingestion where a foreign object, such as a bird, is drawn into the engine at a very high rate of speed and in effect becomes a dangerous projectile to the engine's internal elements. This event was factored into all three engines' design parameters to mitigate the risk of any eventual ingestions causing an engine failure. During these engines' quali-

*Left: The Army is pursuing the highest reliability of any engine to date with the development of the T901. The Army's T901 First Engine to Test is shown installed in the test cell prior to initial engine light off.*

*Center: Apache helicopter repairers from Delta Company, 1-3rd Attack Battalion, 12th Combat Aviation Brigade guide one of the T700 engines into an AH-64D Apache Longbow. The 2,000 SHP T700 engine has undergone continuous improvements in durability, reliability, readiness, and availability during its over 40 years of service to both Apache and Black Hawk helicopters.*

*Right: CH-47 helicopter repairers assigned to Delta Company, 2-227th General Support Aviation Battalion loosen bolts on a T55 engine for a 160-hour phase maintenance inspection on a CH-47 Chinook helicopter. T55 engines have reliably powered Chinook aircraft for nearly six decades of service and over 12 million hours of operation.*

fications a realistically sized bird is ingested to ensure the engine will remain operational, and if the tested engine fails from the impact the testing serves to verify no containment issue exists from breaking compressor disks, keeping the aircrew safe from case penetration, engine failure and fire.

Infrared (IR) signature is also a primary focus of engine survivability. Certain minimum requirements must be



met with engine IR signature contributions from exhaust and component radiance. This ensures the aircraft is less susceptible to enemy detection, which allows the aircrew to evade, successfully and safely accomplishing their missions.

Ballistic testing helps characterize overall engine survivability efforts. During qualification efforts, the T901 will undergo live fire testing, like previous engines, to ensure any vulnerabilities are minimized during aircraft interactions with adversary forces. The engine's compressor case, a mission critical part that aids in compressing air before the combustion process in a turbine engine, also undergoes testing and qualification for containment during a ballistic attack event, such as live fire, causing a compressor blade to break. An engine more able to withstand ballistic assault will serve to protect the aircrew and return them home safely.

### T700 and T55: The Army's Enduring Fleet Engines

The T700 has proven itself as a reliable power source for over 40 years in Apache and Black Hawk helicopters. It has accumulated over 50 million flight hours, undergone six major performance upgrades and has been integrated into multiple premier helicopter platforms. The 2,000-shaft horsepower (SHP) T700 engine has undergone continuous improvements in durability, reliability, readiness, and availability.

T55 engines have powered Chinook aircraft for nearly six decades of service and they have accumulated over 12 million hours of operation. This powerful 5,000 SHP engine reliably powers the Army Aviation solution for heavy lift loads.

Over the years, both the T700 and T55 have seen advancements in survivability through component improvement program (CIP) efforts. These CIP efforts provide the only source of critical sustaining engineering support for in-service engines to maintain flight safety, enhance survivability, improve system operations readiness, and increase reliability and maintainability throughout their service life.

As the Apache and Black Hawk airframe mission weights increased over time, incremental power upgrades to the T700 enabled continued aircraft operational mission effectiveness and single engine capability. The T700-GE-701D was developed with both Single

Engine Contingency and Dual Engine Contingency for emergency power.

### T901 Engine Development

The Army is pursuing the highest reliability of any engine to date in the development of the T901 and it is considered state of the art with regards to safety. Advanced manufacturing processes and control system software in the Full Authority Digital Electronic Control allow development to be pushed to the next level. Additive Manufacturing (AM) allows the T901 to use a reduced number of parts, with each part considerably more complex and weighing less than the combined parts being replaced. Higher compression ratios and higher inlet temperatures are produced in part by the T901's revolutionary design features, AM and advanced coatings, to achieve a more efficient engine that results in a 50 percent increase in shaft horsepower and a 25 percent reduction in fuel over the T700.

The T901's control system software is being held and tested to the most rigorous standards offered. All systems are designed with the utmost safety in mind, with redundant systems maximizing safety and survivability. One of the larger efforts with the T901 centers on its Engine Health and Monitoring System which provides real time data tracking of wear and life limits on the various parts and subsystems of the engine. In terms of safety, this helps provide early detection of increased wear and flags those parts for inspection and/or maintenance before they become an issue.

The Aviation Turbine Engines Project Office provides Army Aviation with safe, survivable, and reliable power solutions. ATE successfully delivers, remaining focused on the safety of the Soldier in the field in their use of CIP efforts for the enduring fleet engines as well as pursuing the highest standards of reliability in the T901 engine's development. ATE powers Army Aviation and helps ensure Soldiers complete their missions and return home safely – People First.

*Ms. Gina Bublitz is the Aviation Turbine Engines Project Manager within the Program Executive Office for Aviation, Redstone Arsenal, AL; Cindy Mitchell is an Avion Solutions, Inc. employee supporting the ATE Project Office with strategic communications.*




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# The Future Long Range Assault Aircraft (FLRAA) Achieves Initial Preliminary Designs

By LTC Jennie E. Conlon



*Sikorsky-Boeing SB-1 Defiant*



*Bell V-280 Valor*

**T**he journey of the FLRAA program has been steadily busy and exciting. Both government and industry teams continue to leverage opportunities to achieve bottom-line results of delivering a quality FLRAA weapon system and meet the Army's modernization objectives of fielding to the first unit by 2030. Burning down risk prior to contract award is extremely important and key to successful milestones. FLRAA's Competitive Demonstration and Risk Reduction (CD&RR) efforts allowed the Army to achieve improved cost, schedule, and performance while maintaining rigor in the FLRAA acquisition.

### FLRAA CD&RR Risk Reduction

The FLRAA team of teams continues to deliver in its commitment to develop and field the next generation assault and MEDEVAC aircraft with the development of two major weapon system preliminary designs in the Competitive Demonstration and Risk Reduction (CD&RR) effort. On March 16, 2020, PM FLRAA awarded the CD&RR project agreements to Bell Textron Incorporated (V-280

Valor Demonstrator), and Sikorsky Aircraft Corporation (SB-1 Defiant Demonstrator) via the Aviation and Missile Technology Consortium Other Transaction Authority (OTA).

PM FLRAA, alongside Army Contracting Command, leveraged OTAs to reduce time to contract, realize cost efficiencies, and increase program flexibility. Phase I of CD&RR completed key analysis to support requirements optimization given Army acquisition cost, schedule, and performance objectives through the delivery of conceptual prototype initial designs.

In March 2021, Phase I concluded and Phase II began. Phase II of CD&RR continued the maturation of the two conceptual designs through initial preliminary designs at both the Subsystem level (e.g., air vehicle and mission systems), and the Weapon System level, which is the FLRAA aircraft in its entirety. The Army and industry completed a significant of the preliminary design work in CD&RR, using digital engineering to lay a strong foundation for this program, well-ahead of the final technical reviews and building the FLRAA prototypes.

### Preliminary Designs

For major weapon systems, there are two critical technical reviews prior to building physical prototypes: a Preliminary Design Review and a Critical Design Review. FLRAA had the unique opportunity to accomplish initial PDRs through CD&RR. Preliminary designs are the beginnings of the FLRAA blueprint. This design lays the foundation for the hardware, software, support systems, human factor integration, and underlying architectures to meet the FLRAA cost, schedule, and performance objectives.

The FLRAA team, in partnership with the requirements, sustainment, and test community, and our industry partners, conducted several technical reviews in both classified and unclassified environments using model-based system engineering in a digital environment. These preliminary reviews included extensive analysis into aspects of the aircraft at the subsystem levels. Aircraft subsystems are the lower level systems that make an aircraft fly (e.g., propulsion systems, electrical systems, flight controls, and avionics, among others).

Each review involved collaboration with our industry partners to ensure



they understood the Army's requirements, the government understood their designs, and each design was supported by mature analysis. These reviews also highlighted the risk areas in each design which provided the Army with an opportunity to continue to mitigate those risks well ahead of the next major phase of the program. The lower-level reviews culminated in two Weapon System Reviews where the Bell and Sikorsky-Boeing Teams independently presented their respective designs.

### FLRAA Transition to a Program of Record

With the completion of the preliminary designs, CD&RR, combined with other risk reduction efforts, has informed the Army's requirements, acquisition strategy, program processes, and ownership costs. These activities ensure a common understanding of how desired capabilities will drive current and future design, sustainment, and affordability elements of the aircraft, and inform the development of stable requirements early in the acquisition lifecycle that meet the Warfighter's needs. Most importantly, it has enabled the Army to accelerate the delivery of FLRAA by more than four years by reducing risk and developing initial designs well ahead of the Weapon System Development Contract.

Recent events in Europe highlight the criticality of developing and fielding a FLRAA capable of mitigating or bypassing the stand-off weapons and anti-access and area denial technologies of our Nation's adversaries. FLRAA's incorporation of mature technology with an open system architecture capable of rapid insertion and management of technology as it evolves, will ensure the initial and future capability of FLRAA will do just that. FLRAA along with the FVL ecosystem, will provide the Joint Force with a transformational capability that possesses increased speed, range, and maneuverability to allow the Army to retain the freedom of maneuver, survive in contested environments, and win in Multi Domain Operations.

*LTC Jennie E. Conlon was the product manager for the FLRAA Development and Production office until August 2022; she is currently a product manager with the Army Contracting Command on Redstone Arsenal, AL.*



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## Army Aviation Scholarship Dinner Concert

Tuesday, November 15

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## Special Focus ► 2022 Cribbins Wrap Up

# Expanded Format, Continued Success!

By CW5 Adam Jarvis

**T**he Army Aviation Association of America sponsored a large industry and Aviation restructured and expanded Annual Cribbins Aviation Readiness Conference 14-16 November 2022 at the Von Braun Center in Huntsville, AL. This gathering allowed both Army Aviation and industry to capitalize on the grand success of the 2021 event, bringing the more than 2,000 attendees back together to focus on the state of Army Aviation and its future.

MG (Ret.) Tim Crosby, the current AAAA president, opened the event on Tuesday morning, welcoming all the friends and partners in Army Aviation and reiterating our mission of support to the Soldiers and families of Army Aviation. LTG Robert Marion, the Principal Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT), delivered the keynote address for the first full day and congratulated the winners of the 2022 AAAA National Functional Soldier and Unit Awards together with the Aviation Branch Chief, MG Michael McCurry, Chief Warrant Officer of the Branch, CW5 Myke Lewis, and Branch Command Sergeant Major James Wilson.

The at-capacity crowd listened to MG McCurry, and MG Hank Taylor, the director of Army Aviation, give detailed updates about the current and future focus areas critical to Army Aviation.

The afternoon breakout sessions were attended by great numbers, a repeat of the 2021 sessions. The Aviation community was on hand to hear the functional leaders' thoughts in the areas of the Transformation of the Industrial base, chaired by MG (Ret.) James Myles. The sessions with the capability managers from the Attack Helicopter, Future Attack Reconnaissance Aircraft, Unmanned Aircraft Systems, and Aviation Mission Systems and Architecture project offices, their industry counterparts, moderated by MG (Ret.) Walter Davis, and the discussions moderated by MG (Ret.) Walter Golden with PMs Utility Helicopter, Cargo Helicopter, Future Long-Range Assault Aircraft, and Fixed Wing project offices and their industry representatives



ARMPHOTOS BY ERNE BOEZA AND AUBREY CANDLES

and ACM Lift were all extremely well attended.

That same evening, the Army Aviation Scholarship Foundation held its first scholarship dinner and concert. The event celebrated the success of the scholarship program and featured a concert by recording artist Michael Ray. LTG (Ret.) Kevin Mangum shared a personal thank you to the scholarship foundation – he was a recipient many years ago and, in his words, “it helped him to be standing here today.” During the dinner, live donations were accepted via the internet and ultimately raised an additional \$35,000 for AAAASF.

On Wednesday morning, MG (Ret.) Crosby presented the first ever support checks to two of the winners of the newly formed AAAA Trade School, Licensing, and Certification Foundation grants. MG Thomas O'Connor then delivered the keynote address and was followed by MG Robert Barrie, the Program Executive Officer, Aviation. Mr. Joseph Giunta, a Senior Executive Service member and the Director of the Army Contracting Command at Redstone Arsenal, provided an update on the contracting efforts underway for Aviation. His in-depth breakdown of the contracting process and the successes at Redstone Arsenal were well received and attended.

The breakout sessions were standing room only for panels on Sustainment Modernization chaired by BG (Ret.) Steven Mundt; the Digital transformation within PEO Aviation, moderated by Ms. Adrian Day; and the Aviation Future Technology Panel, with Mr. Jeffrey Langhout, a Senior Executive Service member and the U.S. Army Combat Capabilities Development Command's Aviation and Missile Center Director, moderating.





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During the Early Bird reception on Monday afternoon, the AAAA Tennessee Valley Chapter presented their seven Mission Area awards for outstanding service to the various project management offices of the Program Executive Office Aviation.

The expanded format for the Cribbins Conference has proven to be a great success! Mark your calendars and we will see you on 13-15 November 2023!

1. Mayor Tommy Battle welcomes the attendees to Huntsville.
2. MG (Ret.) Crosby and MG McCurry cut the ribbon officially opening the exhibits at the 2022 Cribbins Aviation Readiness Conference.
3. 120 exhibitors filled South Hall at the Von Braun Center

4. LTG Robert L. Marion provides the keynote address on the opening day.

5. MG (Ret.) Crosby talking with keynote, LTG Marion and Civilian Aide to the Secretary of the Army for North Alabama, Mr. Joe Fitzgerald.

6. Attendees at the first Scholarship Foundation Dinner/Concert raised an additional \$35,000 for the Foundation.

7. Country Music's Michael Ray entertains attendees at the first AAAA Scholarship Foundation fundraiser dinner/concert.

8. Master of Ceremonies, CW5 (Ret.) Dave Cooper, works the crowd during the Scholarship Foundation Dinner to build the total donations throughout the evening.





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9. Lucas Robinson, son of AAAA Tennessee Valley Chapter member, Mr. Randy Robinson, receives one of the first TLC grants to help him complete his course of instruction to become a welder from MG (Ret.) Crosby (left) and TLC Foundation president, BG (Ret.) Steve Mundt.

10. Jaelynd Edwards, daughter of AAAA Mid-Atlantic Chapter member, MG Joseph A. Edwards (USAR), receives another of the first TLC grants to help her complete her education as a professional pilot from MG (Ret.) Crosby (left) and TLC Foundation president, BG (Ret.) Steve Mundt.

11. CW3 Phillip Bogard, 12th Cbt. Avn. Bde., Katterbach, Germany winner of the Logistics Support Technician of the Year award is congratulated by (l to r) MG (R) Crosby, LTG Marion, MG McCurry, CSM Wilson and CW5 Lewis.

12. MAJ Jeffrey Frantz and 1SG Karl Kurz, commander and senior noncommissioned officer, respectively, of Company D, 3rd Battalion, 160th Special Operations Aviation Regiment (Airborne), Hunter Army Airfield, Savannah, GA, accept the Outstanding Logistics Support Unit of the Year award.

13. Chief Operating Officer of Pinnacle Solutions, Inc., Huntsville, AL, Ms. Tina Tucker, accepts the 2022 Material Readiness Award for a Small Business.

14. Mr. Carl Wood accepts the 2022 Material Readiness Award for an Industry Team, Group or Special Unit for the PeopleTec Army Special Operations Aviation Command Enterprise Data Science & Analytics Team in Huntsville, AL.



13

15. Ms. Kathy Hildreth, managing director and principal of M1 Support Services, L.P., accepts the Material Readiness Award for a Major Contractor for their operations at Fort Rucker, AL.

16. SPC Antonio L. Feliz, Tactical UAS Detachment, Military Intelligence Company, Group Support Battalion, 7th Special Forces Group (Airborne), Eglin Air Force Base, FL, accepts the UAS Soldier of the Year award. Helping to congratulate him is Mr. Don Cattell (far right) representing the award sponsor, General Atomics Aeronautical Systems.





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17. CW4 Julian A. Caicedo, Co. E., 2nd Bn., 160th SOAR(A) at Fort Campbell, KY, accepts the UAS Operations Technician of the Year award.

18. CW3 Damien T. Jones and SFC Robert V. Hennes, commander and senior NCO respectively of Tactical UAS Detachment, Military Intelligence Company, Group Support Battalion, 7th Special Forces Group (Airborne), Eglin Air Force Base, FL, accept the UAS Unit of the Year award. Helping to congratulate them is Mr. Wayne Prender (far right) representing the award sponsor, Textron Systems.

19. LTC Brent J. Pafford and CSM Timathy J. Bevis, commander and senior NCO respectively of 15th Military Intelligence Bn. (Aerial Exploitation), from Fort Hood TX, accept the UAS Unit of the Year award. Helping to congratulate them is Mr. Bunky Litaker (far right) representing the award sponsor, CAE USA.

*See you next year at the 2023 Annual Cribbins Aviation Readiness Conference, 13-15 November!*

# Aviation Innovation Through the Combat Aviation Brigade Architecture Integration Lab

By Mr. Al Abejon



**A**s the U.S. Army prepares for the conduct of future Multi-Domain Operations (MDO) to support Large Scale Combat Operations, Program Executive Office (PEO) Aviation recognizes the need to develop and deliver systems and software to the Combat Aviation Brigade (CAB) at the speed of innovation and relevance. The demands of increased threats and reduced budgets compel the use of innovative approaches to explore and integrate advanced systems and capabilities into aviation formations. The Combat Aviation Brigade Architecture Integration Lab (CABAIL) is one such approach.

PEO Aviation established the CABAIL in late 2019, at Redstone Arsenal, AL, to support the modernization of the CAB as a lethal maneuver force and to prepare it for future operations while sustaining

current readiness and relevance on the battlefield today. Now integrated into the Project Management Office (PMO) for Aviation Mission Systems and Architecture (AMSA), the CABAIL explores and examines mature technology capabilities and products from industry by incorporating them into a simulated aviation force and evaluating their ability to address the Army's aviation modernization and future force challenges. This integrated environment is used to support both the Army's enduring aviation platforms and future fleets.

The CABAIL contains some of the most advanced aviation development and simulation capabilities available in the Army. It is a unique combination of interoperable high-fidelity current force manned and unmanned aircraft Systems Integration Labs (SILs),

*The Combat Aviation Brigade Architecture Integration Lab relies on Soldiers from all components to provide current, relevant input from all echelons of Army aviation. In this photo, an AH-64 Apache aircrew conducts a simulated mission in the Combat Aviation Brigade Architecture Integration Lab, Apache systems integration laboratory.*

simulators, and emulators. Overall, it has the combined attributes of a simulator facility, an electronics repair-shop, and a sophisticated operations control center.

## Aircraft SILs

One critical concept for developing the CABAIL has been the ability to demonstrate, test, and validate system capabilities from a force perspective in a risk-reduced and more cost effective near-real operational environment. To that end, the CABAIL houses



representative aircraft SILs built using actual fuselages from Apache, Black Hawk, and Chinook aircraft, as well as Gray Eagle and Shadow Ground Control Stations. It also integrates current and maturing systems, components, and avionics, many of which are PMO AMSA products.

The aircraft SILs consist of partial airframes that have been re-purposed for engineering development to host mission systems and equipment of the actual aircraft. They are high-fidelity aircraft replications that support the development and integration of aviation systems such as planning, communications, navigation, weapons, sensors, manned/unmanned teaming, air-launched effects, and many others from a total force perspective. Similarly, the aircraft simulators which are primarily software driven accurately portray the aircraft's capabilities. However, they also have a Hardware-In-The-Loop insertion capability that enables examination of actual components in a simulation environment. Collectively, they are key in assessing the operational effects of new technologies on the operations of an aviation maneuver force and the potential impact upon Future Vertical Aircraft (FVL) development.

### **Beyond the SIL**

The interoperability and commonality of the CABAIL major elements extend to "out-the-window" visuals (platforms and effects), mission critical voice/data exchange across multiple "line-of-sight" and "beyond-line-of-sight" networks (based upon the Army's Integrated Tactical Network), and the mission essential information displayed on cockpit displays or carry-on tablets. The focus is on the timely exchange of critical mission information within the aviation force and with the supported ground force in the conduct of Air-Ground Operations.

The CABAIL also includes a functional tactical operations center (TOC) with actual mission command systems and radios; a Networks Integration Center that enables connectivity among the CABAIL entities; and a hub, developed by the Redstone Test Center, known as Battle Master, that coordinates and manages the scenarios as well as collects systems' performance data.

By combining manned and virtual entities with operator-directed, constructive simulation of other aircraft

and combat systems, the CABAIL approximates the interoperability and operational capabilities of a CAB in selected aviation mission-set vignettes. This total capability approach facilitates accelerated systems integration of new and emerging technologies for concept exploration as well as measuring the operational relevance of maturing technologies and capabilities for the CAB.

"CABAIL is able to conduct risk reduction evaluations on new technologies at a fraction of the cost of actual aircraft," Robb Keeter, CABAIL Senior Program Integrator/Operations Officer, said.

### **External Interoperability**

In addition to the interoperability within the CABAIL, the lab is connected to and interoperable with other Army research laboratories at Aberdeen Proving Ground in Maryland and the Ground Vehicle Systems Command in Warren, Michigan. This level of interoperability allows the CABAIL and its systems to participate in Lab Based Risk Reduction efforts to support operational experiments, such as Project Convergence and Experimentation Demonstration Gateway Event, and to exchange critical mission planning and execution data with other capability labs.

Preparing, testing, and developing new aviation systems for combat operations cannot wait for actual conflict. The CABAIL is a means and a venue to seek and evaluate new and emerging technologies along with network connectivity options to improve the flow of critical mission information to increase situational awareness, command and control, adjudication of aerial fires, key logistics deliveries and life-saving medical support.

### **Aviation Exploration Events**

During aviation force explorations in the CABAIL, operational aircrews and staff personnel plan and execute mission sets using operationally relevant air-ground scenarios. The mission scenarios are situated in a simulated high-intensity combat environment of a real-world Joint contingency theater of operation. Additional asset inputs include surveillance aircraft, multirole combat jets, and naval gunfire among other simulated augmentations. Conversely, the CABAIL control team can introduce threats such as enemy aircraft and air defense, environmental

factors, and day/night settings.

In "exploration events," the operational aircrews fly the initial set of missions with current aircraft mission equipment to establish a performance baseline. After becoming familiarized with the new systems of interest, the aircrews fly a second set of mission scenarios with these systems added to the configuration of their respective aircraft SILs and simulators.

Using data collected from the second set of missions, an evaluation team compares the performance of the aviation force to the baseline performance data. The evaluators also collect subjective assessments of the effect that the added capabilities of the new systems had on operational effectiveness from the aircrews and staff personnel. The data collected and assessments enable the evaluation team to conduct a balanced quantitative/qualitative evaluation of the new technologies and capabilities employed.

### **Future Requirements Development**

CABAIL operations are central to informing FVL requirements, design, and Modular Open Systems Approach (MOSA) architecture. This concept also directly pertains to the continued modernization of the enduring fleet. It is a creative, effective, and streamlined means to maximize the use of readily available resources for aviation materiel developers and Warfighters to co-develop and examine advanced systems and capabilities for MDO applicable to future aircraft.

To prevail in future combat operations across the full spectrum of MDO will require Army Aviation to successfully execute the initial fight, expand the battlespace, and conduct deep strike operations. Although we exist and operate in a significantly budget constrained environment, Army Aviation can leverage the CABAIL to expedite the development of modernized systems for the Aviation Warfighter, with less risk and at reduced costs. In doing so, the CABAIL is an agent to further ensure Army Aviation's readiness and its ability to fight and win as a maneuver force of the Combined Arms Team and an element of the MDO task force in the conflicts of today and into the future.

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*Mr. Al Abejon is the director of the CABAIL located at Redstone Arsenal, AL.*



# Artillery Tank Support<sup>1</sup>

By Colonel Hamilton H. Howze

Edited by Mr. Mark Albertson

**H**amilton Howze was one of the standout personalities instrumental in the formation of modern Army Aviation, including that of being its first acknowledged Director.<sup>2</sup> And like the indispensable Robert R. Williams, Howze was one of the leading theorists of the Army Aviation movement.

But he was also a tankman. Below is an article written by Hamilton Howze in 1943 when he was a colonel serving in Tunisia. It provides yet another interesting side to a man who will become pivotal to the development of Army Aviation.

A most striking instance of the effect of artillery in support of tanks occurred about 4 miles east of Mateur on May 6, 1943. The German forces held a line extending south from Ferryville, but east of Mateur the line swung east to drop back to a line of hills that extended further to the South. This jog constituted a flank to his Ferryville-Mateur position.

The southern part of his position was comparatively tank-proof; since this “flank” was not, he concentrated a large number of AT guns for its protection. The slope to his position was gradual, but the hills were high enough to give him dominant observation. A number of small farms with surrounding trees, and cactus patches, haystacks, and small folds in the ground afforded him ample choice in the location of his AT guns.

On May 5th, a reconnaissance in force by Co H, KCth Armd Regt.<sup>3</sup>, of the same position, enabled the bulk of that company’s tanks to almost reach Badbad Farm; only 3 were knocked out up to that time, but on their return trip 4 were destroyed by AT guns or mines.

This reconnaissance – it amounted to a small-scale attack – was supported by 2 battalions of 105 mm howitzers, directed on targets by me.

As indicated, the objective (Badbad) was almost attained with fairly small loss: 3 tanks.



WIKIMEDIA COMMONS PHOTOS

*GEN Howze was commissioned in the Cavalry in 1930, and earned his Army Aviator wings in 1947. As Chairman of the “Howze Board” he is recognized as the Intellectual force behind the current air mobility and Army Aviation doctrine. He was the Director of Army Aviation from 1955 to 1958, where he developed new tactical principles.*

Next morning at 0500 hours an entire battalion (2nd Bn, KCth Armd Regt) attempted the same objective. Due to unfortunate mischance, the forward observers of the artillery had not the proper data to fire a preparation bombardment, so readjustment of fire was not possible before daylight. The enemy permitted the tanks to get almost across the flat before opening fire and then bore down hard, destroying 7 more medium tanks and forcing the balance to retire. The battalion commander’s tank was destroyed and himself wounded, whereupon I was directed to relinquish my job as regimental executive and take command of the battalion in preparation for a later attack that afternoon. This instruction reached me about noon.

With 14 burned-out tanks in the field over which my battalion had to attack, there was considerable incentive to plan effective fire support. I accordingly laid out with Capt. Combs (of Div. Arty) a scheme of support as shown in the accompanying sketch, and requested the support of all 3 battalions, which was granted. I also gave targets (suspected



AT gun positions) to my mortars, assault guns, and several TD guns that were behind the ridges. These direct-fire guns were instructed as follows: each company was to divide the terrain into sectors; each platoon was assigned a sub-sector, within which it selected particular targets to engage with HE; and each gun was assigned a single target, which it never left until our own tanks screened its fire.

The attack jumped off at 1700 hours. From my tank I could see the hill coming apart in front of me, while an excellent smoke screen guarded our right flank. The attack swept on without a hitch – though the enemy put down a fairly heavy concentration of large caliber HE, his AT guns short of the objective never stood a show. A few were overrun by tanks but the majority were not fired, for the gunners could not man them in the hail of HE. Some of our artillery landed close to, and occasionally even behind our tanks, but it seemed sort of friendly.

As the tanks crossed the ridge we encountered more AT guns and our artillery, which could not see us, lifted. But these enemy guns were hastily emplaced, and the tanks blew them up in short order. We had but one tank that suffered a penetration; a few had tracks blown off by mines or enemy fire.

One action may be insufficient evidence upon which to draw a moral, but I, at least, am absolutely convinced that tanks cannot penetrate an organized enemy position without prohibitive losses, except with overwhelming artillery support. The AT gunners must be driven from their guns,

and kept down by all available means. This indicates that if an armored division is to attack on two fronts simultaneously, the attacks must be spaced in point of time to permit all artillery to concentrate first on one objective, then on the other. Once the tanks are through, the pay-off comes: in this instance the front folded, many hundreds of prisoners were taken, and a large number of guns were captured – including several 155 mm and many 88 mm.

#### End Notes

1. See page 779, *The Field Artillery Journal*, Vol. 33, No. 10, The Field Artillery Association, Washington, D.C., October 1943. Reprinted with the permission of the U.S. Field Artillery Association.

2. Hamilton Howze reflected on being the first director of Army Aviation. Early in 1955, he reported to Lieutenant General James Gavin's office at the Pentagon. "He was cordial and brief: my new appointment was due to my lifelong demonstrated interest in battlefield mobility. Aviation in the Army had a bright future but needed direction: I was to carry on as its first director – that being, it should be said, no more than a staff title." See page 181, Chapter 15, "Army Aviation," *A Cavalryman's Story*, by Hamilton H. Howze.

3. See pages 44-48, "Breakthrough by the 1st Armored Division," *To Bizerte With II Corps*, 23 April-13 May 1943, CMH Pub 100-6, KCth Armd Regt is the 13th Armored Regiment of the 1st Armored Division, during the Mateur to Ferryville attacks, May 4-13, 1943.





## AAAA Chapter Affairs

By LTC (Ret.) Jan Drabczuk

*I appreciate the support from, LTC Michael J. Bordallo the Battle Born Chapter President, and MAJ Zackary Taylor-Warren, Senior VP, for providing and sharing this information to our membership.*

# The Battle Born Chapter

The Battle Born Chapter continues to grow since its inception in 2018. Mainly comprised of Nevada Army National Guard Members and retirees within the State's Aviation community.



Assigned units include companies from the: 1-189th GSAB, 2-238th GSAB, and 3-140th AVN REGT; OSA-A Det. 45; and HHC, 991st Aviation Troop Command. Several other leadership positions within the state are held by past and current Aviators also active in the chapter.

### Chapter Leadership

Recently, the Battle Born Chapter had significant turnover in Chapter Leadership but continues to pass the legacy of Army Aviation to new leaders. Their previous Chapter President, LTC Andrew Wagner, took a sabbatical as he attends the Resident War College in preparation for future command positions. The Chapter welcomes LTC Michael Bordallo as their new Chapter President, MAJ Zackary Taylor-Warren as their Senior VP, CW2 Ryan Moore as their VP Awards, and CPT Jacob Pestana as their new Treasurer. CW3 Jacob Houser, their previous Treasurer, has taken on the role of Secretary. The Chapter is thrilled to integrate these new Executive Board Members and established Aviation professionals into its Chapter operations. We are excited to see what plans are to come for the Battle Born Chapter!

### Member Highlights

MAJ Zackary Taylor-Warren is the Chapter's first recipient of the Order of Saint Michael Bronze Award. He was awarded the medal by the North Star Chapter for his selfless contributions to Operations Inherent Resolve and Spartan Shield while serving as the battalion chief operations officer for

the 2-147th Assault Helicopter Battalion. His duty and continued service represents Nevada and the AAAA national community.

CW3 Steven Minifie also received the Rising Eagle award at this year's NGAUS Conference in Columbus, OH. CW3 Minifie serves in several capacities within the NVARNG including UH-60A/L Maintenance Test Pilot and Instructor Pilot. He has been selected to fly C-12s for OSA-A Det 45. He is truly a rising and accomplished star within the community and we are blessed to have him within Aviation.

### Past Accomplishments

Supporting its members through deployments and domestic firefighting has been a particular priority for the Battle Born Chapter. The Nevada Guard 1-189th GSAB and 2-238th GSAB both deployed during the onset of the COVID-19 Pandemic and returned in late 2020. Nevada Army Aviation elements supported the historic Caldor and Beckworth fire complexes in California with United States Forest Service and California and Nevada Divisions of Forestry. The Nevada companies of 3-140th AVN REGT are currently preparing for a border mission rotation. As a part of community support, the Battle Born Chapter hosted a get together and BBQ for the members and families of 1-189th and 2-238th GSAB who returned from Iraq and Afghanistan the year prior. Nevada Army Aviation continues as the partner of choice supporting the state and nation through community and operational involvement.

### Future Plans

The Battle Born Chapter focuses on growing its membership through promotion of their programs amongst local retirees and recognize its members for their great contributions to Army Aviation within the Nevada Army National Guard. The Battle Born Chapter is currently planning a membership drive for December 2022 and will partially sponsor an Aviation Banquet for the Nevada Army National Guard in April 2023. Most excitingly on the horizon is the National Guard Association of the United States (NAGUS) conference being held in their hometown of Reno in August 2023. The Chapter will be providing support for the conference and plans to utilize the publicity to further drive membership and raise funds to support the Chapter local Soldiers.

### Continued Support

Nevada continues to serve the Aviation Community well and is dedicated to professionalism at all levels. Battle Born, Battle Ready!

Feel free to contact me if you need help for your Chapter, Executive Board support, would like your Chapter featured in the AAAA magazine or to obtain clarification of National procedures. I look forward to working with you and seeing some of you in Nashville at our 2023 Army Aviation Mission Solutions Summit.

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*LTC (Ret.) Jan S. Drabczuk  
AAAA VP for Chapter Affairs  
jan.drabczuk@quad-a.org*





## ORDER OF ST. MICHAEL INDUCTEES

### Air Assault Chapter



CHAPTER COURTESY PHOTOS

**CW3 Sean T. Richards** and **CSM Amara Fofana**, both assigned to 101st Combat Aviation Brigade, of the 101st Airborne Division (Air Assault), are inducted into the Honorable Order of St. Michael by chapter president, COL (Ret.) Hawk Ruth during a chapter meeting on Oct. 20, 2022. Richards was inducted into the Bronze Honorable Order and Fofana as a Knight of the Honorable Order for their outstanding contributions to Army Aviation. Congratulating them are the 101 CAB command team – COL Clint Cody, CSM Latvia Williams-Green, and CW5 Steven Dermer.



### Connecticut Chapter



CHAPTER COURTESY PHOTOS

On October 14, 2022, the following members of the 1109th Theater Aviation Support Maintenance Group (TASMG) were inducted during a chapter meeting into the Silver Honorable Order of St. Michael and the Honorable Order of Our Lady of Loreto with chapter VP for Enlisted Affairs, CSM (Ret.) Tony Savino narrating. Inducted were (l to r): **CW5 Mike Behuniak** and **wife, Alice**; **CW5 Mike Leroux** and **wife, Julie**; **CW5 John Weaver** and **wife, Melissa**; and **CW5 Renato Astolfi** and **wife, Lennette**.

### Colonial Virginia Chapter



CHAPTER PHOTO BY MR. JOSE NELIA BEHANCOURTH

**CW5 Paul M. Steele** is inducted into the Gold Honorable Order of St. Michael by AAAA National President MG (Ret.) Tim Crosby on October 14, 2022 at Felker Army Airfield, Joint Base Langley Eustis, VA. A charter member of the Aviation Branch as a graduate of the very first Aviation Branch Officer's Basic Course (class 84-01), Steele was recognized for his significant contributions over a lifetime of service to Army Aviation, culminating with his current position as an experimental Army Aviation test pilot at the Technology Development Directorate-Aviation, JBLE.

### Iron Mike Chapter



CHAPTER PHOTO BY MR. DANIEL J. RHODES

**Mr. David Sherrard** is inducted into the Bronze Honorable Order of St. Michael, by COL D. Shane Finison, the director of Aviation, U.S. Army Forces Command G-3/5/7, during an October 11, 2022 ceremony at Fort Bragg, NC. Sherrard was recognized for his over 50 years of support to Army Aviation culminating with his current assignment as Operations Analyst at U.S. Army FORSCOM headquarters. In addition to his role as a Department of the Army Civilian, he has had a long military career, continuously involved and professionally engaged in Army Aviation, including leadership and combat missions flown in Vietnam.

### Tennessee Valley Chapter

**Ms. Shannon Murphy** is inducted into the Bronze Honorable Order of St Michael, by LTC (Ret.) Jason Galindo, chapter VP Operations, on September 29, 2022 during a chapter meeting at the Rocket City Tavern, Huntsville, AL. Murphy was recognized for her contributions to Army Aviation over 23 years



CHAPTER PHOTO BY ISRAEL MATTHEW SKATLUX

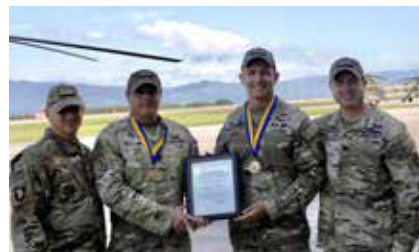
supporting the Program Executive Office, Aviation (PEO AVN) including her current position as an operations analyst for the Apache Attack Helicopter Project Office and more than 10 years directly supporting the chapter as a committee and board member.



CHAPTER PHOTO BY MR. ALAN GAMBLE

**Mr. Ray Mueller** is inducted as a Knight of the Honorable Order of St. Michael, by Mr. Robert Domitrovich, product manager Apache Sensors at Redstone Arsenal, AL on November 3, 2022 at Salt Lake City, UT during an Apache Program Management Review. Mueller was recognized for his work as the director of Army Aviation Programs and support to Army Aviation spanning over 20 years in operations, development, integration, and technology modernizations.

### Winged Warrior Chapter



CHAPTER COURTESY PHOTOS

**CPT Adam O'Reilly (center right)** and **1SG Kenneth Martin**, commander and senior NCO of Co. B, 1st Bn., 228th Avn. Regt., are inducted into the Bronze Honorable Order of St. Michael by LTC Charles Hall (right), chapter president and 1-228th Avn. Regt. commander, with the assistance of CSM Keith Jenkins (left), battalion senior NCO, on Oct. 6, 2022 at Soto Cano Air Base, Honduras. O'Reilly and Martin were recognized for their dedicated support of Army Aviation during the B Co. joint change of command/responsibility ceremony.



## AAAA Membership Update

By CW4 Becki Chambers

# The Membership Corner

If you spend any time on LinkedIn, you've probably seen postings for the Pat Tillman Foundation. We are honored in the Aviation community to have a Pat Tillman Scholar – CW4 Natasha Ryan.

CW4 Natasha Ryan grew up in Newark, Ohio with few indicators in her family that she would eventually travel the path that she did. Her grandfather served in the Navy and Army and fought in the Korean War and WW2. She also has an uncle who served in the Navy. Natasha completed the Bachelor's in Aeronautics and Master's in Occupational Health and Safety Management, both from Embry-Riddle Aeronautical University. She amicably co-parents with her daughter's father, and they share their firecracker comedian of a daughter, Gabrielle.

It was an accident that pushed CW4 Ryan into joining the military. She was playing soccer on a full ride scholarship when the co-captain tore her ACL and lost her scholarship for the next year. That could have just as easily been Natasha and she needed to ensure she could complete school. A woman Natasha lifeguarded with mentioned the military and the rest is history.

CW4 Ryan joined in 1999 as a PV1 and worked in the post office when the military ran them. In 2005, she was on a mission in Pakistan, moving mail to outposts and two Big Windy pilots showed up – they were women. That was a game changer; representation DOES matter, because now Natasha believed maybe she could do that too. She still regrets not finding out who they were.

Natasha said she has too many mentors to name here, but clearly first and foremost is her own mother, who showed her hustle and heart will get you everywhere. Second, is CW5 Bruce McCormick who was the first Warrant she had ever met, and she has wanted to be like him ever since. CW3 Joni Gray and SGM Vickie Rivera; one taught her “you get more flies with honey” and the other taught her to be a Venus fly trap.

As I mentioned earlier, CW4 Natasha Ryan is a Tillman Scholar. The Pat Tillman Foundation is a veteran organization that partners with the NFL to offer scholarships to veterans and spouses in the name of Ranger CPL Pat Tillman. Pat played football for the Arizona Cardinals prior to joining the Army and was killed by friendly fire on April 22, 2014. Each year the foundation chooses 60 scholars to support their educational endeavors based on their demonstrated record of service, scholarship, humble leadership, and potential for impact. CW4 Ryan was selected as a member of the Class of 2018, and she says it has been



CW4 RYAN PERSONAL PHOTO

the most phenomenal academic/veteran experience of her life. The scholars and the staff are overwhelmingly impactful; these are not the type of people who sit on their laurels. They are civil servant government officials, veteran organization leaders, entrepreneurs, doctors, Medal of Honor recipients, astronauts, rocket scientists, and the sole source of her imposter syndrome. CW4 Ryan believes she won the lottery being selected and implores any veteran or spouse that wants to continue their education to apply. Sky's the limit.

When asked why she believes it's important to belong to a professional organization like AAAA, Natasha responded with: “Having a sense of community is empowering. When a group of like-minded people get together for good, they can change the entire game. They can fuel new initiatives and encourage innovation. They can lend a helping hand to the new ones and embrace the old ones in collective support. The difference with our organization is that sometimes our members risk and even give all for the mission we believe to be noble and good. In those moments, being such a small number of people fortunate enough to do this job, that has deployed together numerous times, that sense of family is crucial to being able to continue the mission.”

If you have a Soldier who you think should be highlighted in this column, please reach out to me at [beckichambers@quad-a.org](mailto:beckichambers@quad-a.org).

*CW4 (Ret.) Becki Chambers  
AAAA Vice President for Membership*





## New AAAA Life Members

*Air Assault Chapter*  
MSG Tom Mattingly  
*Aviation Center Chapter*  
CW5 Paul A. Van Loan  
*Colonial Virginia Chapter*  
MAJ Benjamin Adam Schneider  
*Iron Mike Chapter*  
Mr. Christopher D. Hunt, CW4(R)  
CPT Nathaniel Pieringer  
*Lindbergh Chapter*  
Mr. Jaros C. Rickmeyer  
*Minuteman Chapter*  
SGT John Andrew Morrissey  
*Tennessee Valley Chapter*  
LTG James H. Pillsbury, Ret.  
Mr. Richard Beevers  
*Thunderbird Chapter*  
1SG James Mahan  
*Washington-Potomac Chapter*  
MAJ Kevin Wood  
*Wright Brothers Chapter*  
CW4 Jeffery Richeson

## New AAAA Members

*Air Assault Chapter*  
CW4 Wesley Adams  
SFC Roger F. Waufle  
*Aloha Chapter*  
MCPO Ronny German, Ret.  
*Arizona Chapter*  
Mr. Corey Rollison  
*Aviation Center Chapter*  
WO1 William C. Alm  
WO1 Enmanuel D. Baez  
WO1 Casey G. Caldwell  
WO1 Travis E. Drawdy  
WO1 Eric R. Edler  
Mr. Robert Gibson  
Ms. Summer MacGregor  
WO1 Ross M. Miltimore  
WO1 Zachary J. Murri  
WO1 Adam M. Parizo  
CW3 Robert Pierce  
LTC Emily A. Simmons  
WO1 William A. Speede  
Dr. Brian Sperling  
WO1 Drew R. Taylor  
WO1 Marcus T. Taylor  
WO1 Rebecca L. Verran  
WO1 Samuel D. Warren  
WO1 Dathin M. Wheeler  
*Badger Chapter*  
Mr. DJ Fuller  
*Central Florida Chapter*  
Ms. Shelley Bond  
Mr. Rudy De Los Reyes  
Ms. Meg Harrison  
Mr. Kevin Krigsvold  
Mr. Steve Miller  
Mrs. Christy Morgan  
Mr. Andy Murphy  
Mr. Anton Pavlas  
Mr. Jacob Senior  
*Colonial Virginia Chapter*  
Ms. Symirah L. Baker  
Mrs. Joi N. Boone  
CPT Benjamin Fertich  
WO1 Joshua N. Koger  
Mr. Michael K. Larrimore  
Ms. Valencia Y. White  
Ms. Tiffany M. Williams  
*Connecticut Chapter*  
Mrs. Rachida Bull

Mr. William Coolahan  
*Delaware Valley Chapter*  
Mr. Bradford Everman  
Ms. Maryn Marston  
*Desert Oasis Chapter*  
CW4 ROGER PASSIE  
*Flying Gator Chapter*  
PFC Pieter M. Booyesen  
*Follow Me Chapter*  
SSG Amon Barge  
*Frontier Army Chapter*  
Mr. Dave Cook  
COL James A. Watts  
COL Jamey Wehrli, USAF Ret.  
*Great Lakes Chapter*  
Mr. Kurt Aho  
Mr. David R. Bekkala  
PFC Charles Anthony Cortes  
Mr. Chad Gaier  
Mr. Ben Larson  
Dr. Josh Loukus  
Ms. Kitt Loukus  
Mr. Roy Loukus  
Mr. Luke Lusk  
*Green Mountain Boys Chapter*  
Dr. Brian Bradke  
*Grizzly Chapter*  
SSG Nicholas Anderson  
SSG Luisa Antoniopacheco  
MAJ Cameron Baker  
SSG Brady King  
SFC Christopher Lapomardo  
PFC Tommy Ly  
CW3 Helen Rodriguez  
SSG Robert Schaubtschlager  
SSG Xue Thao  
SFC Stephen Verduzco  
*High Desert Chapter*  
SMSgt Gil Thomas, USAF Ret.  
*Idaho Snake River Chapter*  
PFC Brendan Jensen  
PFC John Ivan Reese  
*Iowa Chapter*  
Mr. Kitae Bae  
Mr. Sungpil Lee  
*Iron Mike Chapter*  
CPT Nathaniel Pieringer  
*Jimmy Doolittle Chapter*  
PFC Taylor G. Thurman  
*Land of Lincoln Chapter*  
PFC Brynna Jeanann McLaughlin  
*Lindbergh Chapter*  
CMSgt Charles Clark, Ret.  
Mr. Matt Dunkmann  
*MacArthur Chapter*  
Mr. Daniel A. Chams  
Mr. Matthew Fricke  
Mr. Rich Jeric  
Mr. Jack Moore  
Ms. Emily Warren  
PV2 Dishaun R. Watson  
*Magnolia Chapter*  
COL Shannon Hailes, USAF Ret.  
PV2 Zachary Elitopher West  
*Mid-Atlantic Chapter*  
SPC Raymond C. Huhn  
PV2 Christian A. Sanchez-Nunez  
*Minuteman Chapter*  
Mr. Keith Cromack  
*Mohawk Chapter*  
PV2 Casey Vernon Collins  
Mr. Ken Constan  
Mr. Scott Killian  
*Morning Calm Chapter*  
CPT Cameron Lyons  
*Mount Rainier Chapter*  
MSG Matthew Kyle Bowe

Mr. Michael Hudson  
SGT Omar L. Serrano-Velazquez  
*North Country Chapter*  
1SG Tommy Kimmes, Ret.  
*North Star Chapter*  
Mr. Kodey Kiel  
Mr. David Rodgers  
*North Texas Chapter*  
Mr. Matt Jaworski  
LtCol Michael Koval  
Mr. Brian McDonell  
A1C Charles Michael Osborn  
Mr. Kristian Pfeiffer  
*Oregon Trail Chapter*  
CMSgt Shane Hickman, USAF Ret.  
PFC Eric D. Ovcharenko  
*Phantom Corps Chapter*  
PV2 Canaan L. Rivers  
*Pikes Peak Chapter*  
CSM Njikoka Anderson  
Mr. Todd Engel  
*Prairie Soldier Chapter*  
PVT Kaden E. Wegner  
*Rio Grande Chapter*  
Mr. Kenny Hill  
*Savannah Chapter*  
CPT Mackenzie Pfeiffer  
*ShowMe Chapter*  
WO1 Timothy W. Wright  
*Southern California Chapter*  
PV2 Daniel Hyun Baek  
WO1 Douglas M. Campbell  
Mr. Philip Scheidbach  
*Tarheel Chapter*  
WO1 Michael A. Carrier  
*Tennessee Valley Chapter*  
Ms. Kimberly Alexander  
Mr. Nelson Ballew  
Mr. Donald Barribeau  
Mr. Rick Blayney  
Mr. Todd Blood  
Mr. David Bonwit  
Mr. Thomas Buchholz  
Mr. Jason Buck  
Mr. Paul Celani  
Ms. Ashley Cohen  
Mr. Andre Cota-Robles  
Mr. Randy Cottrell  
Mr. Paul Curry  
Mrs. Anita Driver  
Mr. Kevin Duke  
Mr. William Edwards  
Mr. Johnathan Frasier  
COL David Graves  
Mrs. Jackie Hicks  
Mr. Duane Hill  
Mr. Carl Holden  
Mr. Randy Hull  
Mr. Kevin Knight  
Mr. Jason Lawler  
Mr. Andrew Mobley  
Mr. Joseph M. Nash, Jr.  
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Mrs. Laura Olin  
Mr. Christopher Phlegar  
Mr. Michael Pollut  
Ms. Chasity Puryear  
Mr. Russell Rawson  
Ms. Lisa Segroves  
Mrs. Taylor Smith  
Mr. Richard Sneed  
Miss Heather Snoe  
CPT Raoul Valencia  
Mrs. Shylow Whiting  
*Utah Chapter*  
Mr. Geoffrey Hitchcock  
Mr. Brian Huinker

## AAAA Salutes the Following Departed...

CW4 Walter J. Schramm, Ret. Deceased, 8/9/22

Mr. Mike Paulson  
PFC Joshua A. Perry  
Mr. Lance Urenda  
*Voodoo Chapter*  
Mr. Hunter Bernal  
Ms. Gigi Segura  
*Washington-Potomac Chapter*  
Mr. Douglas Britton  
PFC Heesoo Kang  
Mr. Chris Longman  
Mr. Favio Lopez  
Mr. John Martins  
Mr. Colin J. Miller  
Ms. Melissa Myette  
Mr. John Pranzatelli  
Mr. Ralph Puga  
Mr. Chuck Ungermann  
MAJ Kevin Wood  
*Wright Brothers Chapter*  
Ms. Amy Gowder  
Mr. Steven Radabaugh  
Mr. Mark Simms  
*Zia Chapter*  
PV2 Krystle Cook  
SSG Gabriel Marquez  
*No Chapter Affiliation*  
WO1 Nathan D. Alabran  
Mr. Eric Arnold  
CW3 Aaron Ballew  
Mr. Julie Bond  
Mr. Elliott Born  
Mr. Jeff Brown  
Ms. Kayla Broyles  
MAJ Michael A. Chen  
Mr. David Cook  
Mr. Don Corriere  
Mr. Robert Culver  
CW3 Megan Dawson  
SSG Robert Deanda  
Mr. Steven Denham  
MGySgt Sammy Desopo, USMC Ret.  
Mr. Troy Gallaway  
Mr. Tom Genovese  
MAJ David Haas  
LtCol Ryan Hart, USMC Ret.  
Mr. Jimi Henderson  
Mr. Brian Henry  
CW2 John Hergert  
Mr. Stephen Johnson  
PVT Noah D. Jones  
Mr. Michael Kell  
Mr. Dan Larson  
Mr. Mark Leffler  
PFC Erik Alberto Lopezvelazquez  
1SG Francisco Maldonado  
Ms. Melanie Meador  
Mr. Christopher Nigon  
Mr. Bobby O'Connell  
MAJ Juan Ortiz  
Mr. Gerard Perronn  
SGT Dustin Plybon  
Ms. Nina Powell  
Mr. Kelly Rankin  
Mr. Paul Rignel  
MAJ Ernest Rodriguez  
Mr. Dongjin Ryu

Mr. Anthony Scinto  
MAJ Larry Scoggins  
PV2 Joseph Lee Seibold  
PV2 Jace Ryan Senger  
Mr. Hyun Chul Shin  
Mr. Charlie Showalter  
Mr. Bob Taylor  
Mr. Jeff Thompson  
Mr. James Webb  
Mr. Van Winter  
SFC Heather Wright

## LOST MEMBERS

Help AAAA locate a lost member on this list and receive a FREE one month extension to your AAAA membership.

CPT Robert S. Boham  
Mr. Harold V. Bowie, Jr.  
COL Fred E. Brown, Ret.  
LTC Jeffery D. Brown  
Mr. Rickey J. Brown  
MAJ James E. Bruckart  
Mr. E. W. Cavanaugh  
LTC Richard G. Cercione, Jr.  
LTC Tzu-Shan Chang  
COL James A. Coar, Ret.  
MAJ Harry L. Connors, Jr. Ret.  
Mr. Bruno Cussigh  
1LT Jimmy Joe Doe  
2LT Arthur W. Galloway  
Mr. William H. Gillispie  
Mr. Michael F. Glass  
MAJ Gregory W. Glover  
LTC William T. Goforth  
Ms. Mary H. Gorman  
COL Gerhard Granz, Ret.  
Mr. Dexter Henson  
COL Jose L. Hinojosa, Ret.  
CW4 Delbert Jackson, Ret.  
LTC Randy K. Jackson  
CW3 Jeffrey J. Jelonek  
MAJ Gregory R. Jenkins  
MAJ David A. Jobe  
LTC Peter D. Kowal  
CW3 Vladimir Kultschizky  
CW3 Timothy J. Larz  
MSG David W. Little, Ret.  
SGM Ivonne M. Morrison, Ret.  
MAJ Darrel B. Nerove  
Mr. Fred A. Newcomb  
SFC Henry R. Rathbone, Ret.  
LTC Martin Scheld  
Mr. Thomas R. Schiltz  
LTC Jerry D. Scott  
LTC Jay Q. Smith  
MAJ James F. Speelman  
LTC Friedrich Stern  
Ms. Jean K. Tinsley  
WO1 Armando B. Torres  
MAJ L.D. Walker  
Mrs. Rose Weast



# AAAA

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## AAAA Family Forum

### Highlights from Family Forums at AUSA Annual Meeting and Exposition, October 2022

Army Secretary Christine Wormuth, Army Chief of Staff General James McConville, SMA Michael Grinston, DA staff, and industry personnel provided current information and fielded questions from live and virtual attendees in 3 Town Hall forums with military families.

Housing problems, inflation, spouse employment, the Exceptional Family Member Program, Army Community Services, and the reorganization of Army Health System were addressed.

Discussions focused mainly on mental health. Wormuth said seeking help is “nothing to be ashamed about,” and she herself has sought counseling during difficult times. With the shortage of behavioral health resources nationwide, finding providers in the Army has been a challenge, but with Virtual health and Tricare programs, like Telemed and Doctors-on-Demand, more resources are becoming available.

GEN McConville concurred that a mental health checkup should be as routine as managing a physical ailment like heart disease, and “if you treat mental health early on, when things are just not developed, I think we can save a lot more lives.” As always, he reiterated, “People First” is our most important priority.

SMA Grinston also has sought mental health help, and it has not affected his status in the Army. He emphasized “there is no shame in asking for help even though it is not a panacea for all your problems.” For human beings “connections matter and the more connections you have, the better. These resources are your family, your friends, your golf buddies, your running partners - that’s your squad.”

Chief of Chaplains MG Thomas Solhjem voiced “there’s power and magic in making connections, and Chaplains can help bridge these connections when you are moving to different locations.” By investing in people and local communities you are passing on a “Spiritual legacy to your children as an act of service for kids to do things for others.” There are 100s of ways to get involved in your community, so helping your children navigate, and take ownership in any volunteer opportunities or after school programs can be a real gift to them thus helping them thrive.

He advised, “We were not meant to be alone, so don’t try when experiencing difficulties... If you need help of any kind, you must “ASK the question.” It is important to restructure the isolation mentality created by the pandemic, especially among young adults, and to establish a sense of belonging through face-to-face connections while also using all available holistic resources, like ACS and Military One Source. All problems are not mental but can be financial (read “DA Financial Resources and Training for Soldiers and Families” at [www.FinancialFrontline.org](http://www.FinancialFrontline.org)) or marital etc. and can be addressed and sometimes readily remedied.



Army Senior spouses Maria McConville (Army Chief of Staff Gen James McConville) and Alexandra Grinston (SMA Michael Grinston) provide introductory remarks at the first of 3 Military Family Forums at the AUSA Annual Meeting & Exposition held in Washington D.C. October 10-12, 2022.

BG Deydre Teyhen, commander of Brooke Army Medical Center, suggests the importance for starting your goal of “What Brings You Joy”, whether it be personal development, better nutrition, improving relationships, financial awareness, growing your career, et al. Next comes balancing your priorities and then “Just Do It,” You may never totally get there and may have to rebalance while also allowing yourself a recovery period by having down time, but in the process, you will learn resiliency. She offered the following informational read: “Health of the Army Family” at <https://phc.amedd.army.mil/topics/campaign/armyfamily>.

Some recommendations from other panelists were:

When addressing families of wounded warriors or the fallen, there can be an “elephant in the room,” and we really should not feel we have to fix the problem, because we can’t. We can help by acknowledging and letting these families feel supported, cared about, all the while continuing to include them in our Army Family.

Today, 90% of school children are not in the military, so it is important to have conversations with teachers who might not realize what a military child is experiencing, unless a parent brings it to their attention.

Science shares that when people believe in something bigger than themselves and have spiritual wellness, not necessarily religious, they are more protected against suicide.

With 35% of families living on post, the DA Staff is actively working with privatized housing CEOs to improve current dismal housing issues.

*Judy Konitzer is the family forum editor for ARMY AVIATION; questions and suggestions can be directed to her at [judy@quad-a.org](mailto:judy@quad-a.org).*





# AAAA Awards



## Order of St. Michael Inductees

### GOLD

*Aviation Center Chapter*  
CW5 Robert J. Dickinson, Ret.

### SILVER

*Air Assault Chapter*  
CW5 Carlos Rosadotorres  
*Aviation Center Chapter*  
LTC Kent M. MacGregor  
Brian Swensen  
CW4 Tobie L. Tatum  
CW4 Carlos A. Velez  
*Keystone Chapter*  
LTC Michael S. Gross  
*ShowMe Chapter*  
CW5 Patrick J. Muenks  
*Washington-Potomac Chapter*  
LTC Boyce R. Buckner

### BRONZE

*Air Assault Chapter*  
CW3 Daniel Cook

CW3 Jeffrey E. Davis  
CW4 Michael S. Harris  
CW4 Jean Claude Suhl  
*Aviation Center Chapter*  
Jamie Ambler  
SFC Robert J. Coffey  
CW4 Anthony E. Galloni  
MSG Alejandro S. Rodriguez  
SFC Nathan L. Teach  
*Colonial Virginia Chapter*  
1SG Aaron M. Hardin  
*Desert Oasis Chapter*  
CW4 James Morrison  
*Gold Standard Chapter*  
CW4 Christopher J. Thunder  
*Griffin Chapter*  
CW4 Anthony J. Blacharski  
SFC Jonathan L.M. Fernandez  
SSG Dean C. Phillip  
*High Desert Chapter*  
WO1 Talin J. Angel  
CW3 David A. Dawson  
CW3 Michael Griest  
MAJ Michael W. Hannon  
*Iron Mike Chapter*  
SFC Zachary Boyle  
CSM Ryan Brodin

MSG Sarah E. Caswell  
SSG (P) Evan Caughey  
CW3 Scott E. Dean  
SFC Jonathan Felts  
CW3 Patrick Fuller  
CSM Garvin P. George  
CW4 Skyler Gray  
CW4 Garrett F. Illerbrunn  
CW3 Nicholas A. Vanicek  
CW4 Joseph M. Whittaker  
*Keystone Chapter*  
CPT Nathan Bevans  
MSG Scott B. Davis  
CW4 Brian Koegler  
CW4 David R. Ofak  
CW4 Bryan Young  
*Mount Rainier Chapter*  
SSG Hector R. Sanchez Jr.  
Phantom Corps Chapter  
CW4 Kenyon E. Horan  
SSG Anthony Y. Lopez  
*Savannah Chapter*  
CW4 Michael J. Muehlendorf  
*Stonewall Jackson Chapter*  
1SG Stanley J. Argust  
CW4 Richard G. Brown  
SSG Ryan A. Datema  
SSG Andrew S. Garrett  
CW3 Jason Z. Grace  
LTC Matthew C. Lewis  
SSG Dion B. Miller  
CPT Cameron M. Schaffer  
*Tennessee Valley Chapter*  
Robert J. Dudley  
CW4 Douglas E. Ehrle, Ret.  
*Thunder Mountain Chapter*  
SSG Amir R. Rassti  
CW4 Timothy C. Starnes

*Volunteer Chapter*  
SFC Tracy A. Banta



## Honorable Knight Inductees

*Griffin Chapter*  
Olivier Hartiel  
*High Desert Chapter*  
COL Chad C. Chalfont  
*Keystone Chapter*  
SFC Daniel Mendolia  
*Washington-Potomac Chapter*  
Judith A. Damico  
Brian Mann



## Our Lady of Loreto Inductees

*Connecticut Chapter*  
Melissa A. Weaver  
*Griffin Chapter*  
Heather R. Bessent  
Melanie V. Blanche  
Hyeson Pregana  
*High Desert Chapter*  
Mrs. Nathalie Hannon

## UPCOMING EVENTS

### JANUARY 2023

- 1 Submission Deadline – National Awards and Top Chapter
- 15 Submission Deadline – Scholarship Application Supporting Documents
- 15 Submission Deadline – ARMY AVIATION Magazine Photo Contest

### FEBRUARY 2023

- 23 AUSA Army Aviation Hot Topics Professional Development, Arlington, VA
- 23-25 33rd Annual International Women in Aviation Conference, Long Beach, CA

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# Industry News *Announcements Related to Army Aviation Matters*

*Editor's note: Companies can send their Army Aviation related news releases and information to [editor@quad-a.org](mailto:editor@quad-a.org).*

## Autonomous UH-60 Flies Log and Rescue Missions



Sikorsky, a Lockheed Martin company and the Defense Advanced Research Projects Agency (DARPA) have successfully demonstrated for the first time an uninhabited Black Hawk helicopter flying autonomously, safely and reliably performing internal and external cargo resupply missions, and a rescue operation. Conducted Oct. 12, 14 and 18 as part of the U.S. Army's Project Convergence 2022 (PC22), the flights show how existing and future piloted utility helicopters could one day fly complex missions in reduced crew or autonomous mode. The flight demonstrations began with pilots flying and landing the Black Hawk, then activated the MATRIX system, which forms the core of DARPA's ALIAS (Aircrew Labor In-cockpit Automation System) project, to give full control to the flight computer. When the pilots exited, the helicopter autonomously completed two mission demonstrations:

- Long-endurance Medical Resupply, flying 83 miles while loaded with 400 units of real and simulated blood – totaling 500 pounds; 40 miles from its initial take-off point, the helicopter descended into a valley as low as 200 feet above ground level at 100 knots.
- Combined Cargo Delivery and Casualty Evacuation, lifting off with a 2,600-pound external load attached to a 40-foot sling, and flying at 100 knots for 30 minutes toward a designated landing zone. While in flight, the helicopter was redirected, simulating a scenario in which a threat needed to be neutralized near the primary landing site. Sikorsky demonstrated how a ground

operator with a secure radio and tablet can take control of the uncrewed helicopter, command it to release its sling load, and then land to evacuate a casualty from a nearby location. Once the manikin on a litter was secured inside the cabin, the ground operator launched the aircraft. During the return flight, a Battlefield Assisted Trauma Distributed Observation Kit (BATDOK) health monitoring device integrated with the helicopter's communications system relayed the patient's vitals in real-time to a ground-based medical team. The PC22 demonstrations were the second set of uninhabited Black Hawk flights this year.

**Contracts –** (From various sources. An “\*” by a company name indicates a small business contract / “\*\*\*” indicates a woman-owned small business)

**CAE USA Inc.**, Tampa, FL, was awarded a \$27,656,384 firm-fixed-price contract for flight training services, single engine aircraft, flight simulators, real property facilities and supporting equipment; work will be performed in Dothan, AL, with an estimated completion date of March 9, 2032.

**L3 Technologies Inc.**, Salt Lake City, UT, was awarded a \$20,717,731 hybrid (cost-plus-

fixed-fee and firm-fixed-price) contract for the Manned/Unmanned Teaming hardware and technical and engineering support for the Apache attack helicopter; work locations and funding will be determined with each order, with an estimated completion date of Jan. 31, 2024.

**Mitchell Brothers Inc.**,\* Seabrook, SC, was awarded a \$53,170,000 firm-fixed-price contract to repair airfield infrastructure; work will be performed at Hunter Army Airfield, Georgia, with an estimated completion date of Jan. 10, 2024.

## Advertisers Index

AeroVironment (AV, Inc.) .....	5
AIRBUS Helicopters .....	1
Akima .....	15
Army Aviation Museum Foundation .....	89
Astronics Test Systems.....	75
Avidyne .....	37
Blackhawk Aerospace .....	12
Breeze-Eastern .....	20
Coastal Seat Cushions, Inc.....	81
Collins Aerospace .....	23
Columbia Helicopters, Inc. ....	76
Crestwood Technology Group (CTG).....	29
Dallas Avionics.....	38
David Clark Compnay.....	17
FlightSafety International .....	7
General Atomics Aeronautical Systems, Inc. .	9
General Dynamics Information Technology ..	16
Greenwood Aerospace.....	77
Helibasket .....	31
L-3 Harria IMS Wescam .....	11
Lockheed Martin .....	104
Marvin Test Solutions, Inc. ....	25
Phantom Products, Inc. ....	43
Recoil Aerospace .....	71
S.A.F.E. Structure Designs, LLC.....	45
Science and Engineering Services, SES, Inc. ...	2
SKEDCO, Inc. ....	79
Strata-G Solutions Inc.....	33
Summit Aviation Inc.....	21
True Blue Power.....	27
Tyonek .....	35
uAvionix Corporation .....	13
Viasat, Inc.....	69
Vinnell Arabia.....	39
Yulista Holdings LLC.....	19

## ARMYAVIATION Upcoming Special Focus



**January 2023**  
Aviation  
Maintenance  
/Sustainment



**February 2023**  
Rotary Wing Project  
Managers Update  
Army Capability  
Managers  
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Managers

Contact: **Bob Lachowski** or  
**Erika Burgess**  
**AAAAindustry@quad-a.org**  
203. 268.2450  
**ARMYAVIATIONmagazine.com**



By LTC (Ret.) Patrick "Josh" Baker  
AAAA Representative to the Military Coalition (TMC)  
[josh.baker@quad-a.org](mailto:josh.baker@quad-a.org)

## Is Santa Claus Coming or Not?

Needless to say, 2022 did not lack excitement for the world. As always Aviation Branch was on its best behavior. Our Senior Leaders carried the torch of educating the Hill on our FY23 requirements while our Soldiers continued to answer the Nation's call on a global scale. Russian aggression in the Ukraine and China's global economic and military threat emboldened the dire need for our Army to modernize. FLRAA, FARA, FTUAS, and the FVL Eco System were at the top of the Army's FY 23 wish list. Congress made its list (mark ups) and are about to check it twice in conference following the midterm elections. So how will "Santa" (in this case Congress) reward Army Aviation Branch? There are two procedural events that will lead to knowing if we were "naughty or nice." Those being the passage of a continuing resolution (CR) prior to midnight on 16 December 2022 and conference activities on the FY23 NDAA and Defense Appropriations Bills.

Congress is expected to return to session on 28 November 2022. That does not leave much time to pass a CR and conference the defense bills prior to the Holiday recess exodus. The CR caps spending limits for programs to prior FY year limits. This means that programs like FLRAA and FARA are capped at FY22 spending limits. FY23 limits are certainly needed when considering critical events are occurring such as FLRAA's down select. We can expect Congress to pass a follow-on CR that will "kick" the

FY23 bill passage can in to calendar year 2023. More than likely the defense CR will be included in an omnibus package that combines multiple appropriations (mandatory and discretionary) into one giant bill for ease of voting. However, that can be risky if a Member slips a controversial issue in the package. This can jeopardize the defense CR as it is procedurally married to the other legislation. The FY 23 defense bills will not be passed until turn of the calendar year – likely in the Spring. It's not uncommon for Congress to push bill passage to the incoming "new" Congress which takes effect January 1, 2023.

## The New Congress

The 2022 Mid-Term election resulted in a flip in the House of Representatives. What does that really mean to Army Aviation and the Defense Bills in general? First, the House will assume new Republican leadership across the board. A new Speaker of the House will be elected thus triggering subsequent leadership assignments across all Committees. In our case we need to watch the House Armed Services and Defense Appropriations Committee and Sub-Committee leadership Assignments. The committees are led by a Chairman/woman (Majority) and a Ranking Member (Minority). Historically the Ranking Members and Chairmen simply flip jobs when the majorities change. However, Committee assignments for other Members can be a mixed bag. Just because a Member has a historical seat on a defense

committee isn't a guarantee to retain that seat if the Majority changes. This also includes potential changes in Professional Staff Members (PSMs). PSMs execute the heavy lifting of defense related matters. They track funding requests, issues and Member desires related to each program in their jurisdiction. There are PSMs assigned for the Majority and Minority within the Defense Committees.

Change is certainly on the horizon but how will a Republican controlled House work with what will likely be a Democratic Majority Senate on Defense matters? If history repeats itself business will continue as usual. The litmus test to this assertion is rooted in the continued passage of the NDAA for over 50 years. Majorities certainly changed over the past half a century. Congress always resource the military as it fulfills its role in National Defense. We can expect fundamental priority differences between both sides of the Hill. However, addressing emerging global threats in China and Russia will remain non-partisan.

## Santa Never Forgets our Soldiers

Deployments during the Holiday Season are taxing on our Aviation Soldiers and their families. Please keep them in your thoughts as you enjoy time with your loved ones. The selfless service of our greatest asset isn't lost on Congress either. It's not uncommon to see Congressional Delegations visit troops during the Holidays to show their support.

## AAAA Chapter News

### Air Assault Chapter Meeting



MG (Ret.) Mark O'Neil, 13 year veteran commander at all levels within 1st Special Forces Operational Detachment-Delta (Airborne) otherwise known as Delta Force, and former commanding general of U.S. Army Alaska, was the guest speaker at the Air Assault Chapter quarterly meeting on Oct. 20, 2022 at Cole Park Commons Conference Center, Fort Campbell, KY.



# People On The Move

## Awards

### Former 101CAB Commander Inducted into APSU Military Hall of Fame



PERSONAL PHOTO PROVIDED BY COL (RET.) HAWK RUTH

BG (Ret.) Paul Bontrager was inducted into the inaugural Military Hall of Fame Class at Austin Peay State University, Clarksville, TN, on November 4, 2022. He was one of only 13 inducted in this first year. The former APSU Reserve Officers' Training Corps (ROTC) graduate, was assigned to Fort Campbell after flight school as a second lieutenant and went to Desert Storm. Over the course of his 35-year military career, Bontrager was stationed at Fort Campbell four times. He commanded the 7th Squadron, 17th Cavalry Regiment from 2006-2008 and led the 101st Combat Aviation Brigade from 2011-2013 – an assignment which included a deployment to Afghanistan. Pictured with Bontrager are his wife, Kelly, and AAAA Air Assault chapter president, COL (Ret.) Hawk Ruth.

## Army Aviation Association of America Award Nominations Are Open

Check out the Awards section on [quad-a.org](http://quad-a.org)

### AAAA Functional Awards

*Suspense: July 1*

- AMSO Award ■ ASE Award ■ Avionics Award
- Donald F. Luce Depot Maintenance Artisan Award

*Suspense: August 1*

- Logistics Unit of the Year Award
- Materiel Readiness Award for a Contribution by a Small Business or Organization
  - Materiel Readiness Award for a Contribution by an Individual Member of Industry
  - Materiel Readiness Award for a Contribution by a Major Contractor
- Materiel Readiness Award for a Contribution by an Industry Team, Group, or Special Unit
- UAS Soldier of the Year ■ UAS Unit of the Year
- Fixed Wing Unit of the Year

*Suspense: September 1*

- Air/Sea Rescue ■ ATC Facility of the Year ■ ATC Unit of the Year
- ATC Technician of the Year ■ ATC Controller of the Year
- ATC Manager of the Year ■ DUSTOFF Medic of the Year
- Medicine Award ■ Trainer of the Year

### AAAA Hall of Fame Inductions

*Suspense: June 1*

## Flight School Graduates

AAAA provides standard aviator wings to all graduates and sterling silver aviator wings to the distinguished graduates of each flight class ... another example of AAAA's SUPPORT for the U.S. Army Aviation Soldier and Family.



AAAA congratulates the following officers graduating from Flight School XXI at the U.S. Army Aviation Center of Excellence, Fort Rucker, AL.

### Class 23-001 55 Officers November 3, 2022

#### Commissioned Officers

- 2LT Stedman, Julia E. -DG
- 1LT Curtis, Ian R. -HG
- 2LT Jones, Tanner D. -HG
- 1LT Sevastakis, Christian J. -HG
- 2LT Alva, Sergio E., Jr.
- 2LT Berman, Thomas B.
- 2LT Coffee, Matthew C.
- 2LT Craft, Joshua K.
- 2LT Eby, Rachel M.
- 2LT Gramstorff, Jacob C.
- 2LT Ibarra, Marisa S.
- 1LT Kearns, Richard I.
- 1LT McClintock, Mathew L.
- 1LT Meury, Alexander M.
- 2LT Moore, Shannon K.
- 2LT Payne, Ashanti C., Jr.
- 2LT Retallick, Benjamin
- 2LT Richey, Bryce W.

#### Warrant Officers

- WO1 Bock, Christian J. -DG
- WO1 Bellotte, Dakota M. -HG



FSXXI Class 23-001

- WO1 Denney, Mychal S. -HG
- WO1 Keltie, Logan P. -HG
- WO1 Pope, Jared O. -HG
- WO1 Askew, Vinquez E.
- WO1 Britton, Logan N.
- WO1 Burnett, Aaron K.
- CW2 Cernansky, Lawrence M.
- WO1 Denis, Louis R.
- WO1 Dominguez, Jacob I.

- WO1 Duenas, Gabe K.
- WO1 Escudero-O'Neill, Gabriel
- WO1 Essner, James A.
- WO1 Fank, Michael J.
- WO1 Gaffud, Nathaniel M.
- WO1 Hall, Bradley E., II
- WO1 Harrison, Benjamin W.
- WO1 Henderson, Garrett W.
- WO1 Hennen, Connor J.

- WO1 Hock, Paul I., IV
- WO1 Holdeman, Lucas P.
- WO1 Kalicky, Alexander E.
- WO1 Kelly, Sean P.
- WO1 Labier, Austin M.
- WO1 Lacorte, Stephen N.
- WO1 Mach, Jorie J.
- WO1 Maldini, Anthony J.

*Continued on next page*

# People On The Move

## Flight School Continued

W01 McDaniel, Ian S.  
 W01 Myers, Jeremiah B.  
 W01 Pacheco-Guillen, Rodrigo J.  
 W01 Real, Kevin W., Jr.  
 W01 Robinson, Sean S.  
 W01 Roth, Molly J.  
 W01 Sarpu, Joshua A.  
 W01 Ursery, Jamal R.  
 W01 Zotamou, Jean Marie D.

## Class 23-002

### 57 Officers November 17, 2022

#### Commissioned Officers

2LT Redman, Nathan T. -DG  
 2LT Hare, Jacob J. -HG  
 2LT Pesaturo, Marshal B. -HG  
 2LT Raiff, Allison M. -HG  
 2LT Tavarone, Matthew J. -HG  
 1LT Aguilar, Tosh G.  
 2LT Aponte, Alyssa A.  
 2LT Baynard, Daryon S.  
 2LT Blecha, Elijah A.  
 2LT Chapman, Zachary A.  
 1LT Darcy, Matthew T.  
 2LT Dave, Vinee N.  
 CPT Dobson, Scott T.  
 2LT Fauchet, Nicholas L.  
 1LT Ferry, Dennis M.  
 2LT Gipson, Joshua A.  
 2LT Hardesty, Joshua E.  
 2LT Malo, Noah J.  
 2LT Martin, Mitchell A.  
 2LT Paar, Eric M.  
 2LT Pryor, Taylor N.



FSXXI Class 23-002

2LT Rosa, Courtney A.  
 1LT Sloan, Robert W.  
 2LT Washington, Caleb L.  
 2LT Young, Zachery J.  
**Warrant Officers**  
 W01 Trefts, Clara L. -DG  
 W01 Aiello, Anthony F. -HG  
 W01 Human, Spencer L. -HG  
 W01 McCarthy, Andrew M. -HG  
 W01 Posey, Caleb G. -HG  
 W01 Alos, Jose C.  
 CW2 Crane, Bryan D.  
 W01 Dienno, Robert A.

W01 Evans, Djuan N.  
 W01 Flicker, Brendan A.  
 W01 Funk, Caleb S.  
 W01 Gaviria, Harlinson E.  
 W01 Gibson, William T.  
 W01 Hansen, Kyle S.  
 W01 Hock, Brandon R.  
 W01 Jackson, David R.  
 W01 James, Deion R.  
 W01 Knudsen, Keaton A.  
 W01 Lee, Dong R.  
 CW2 McKenna, Kyle D.  
 W01 McKneely, Hailey E.

W01 Pfiester, Stephen Z.  
 W01 Polotto, Bradley A.  
 W01 Romero, Gustabo  
 W01 Saragosa, Richard M.  
 W01 Schweizer, Richard L.  
 W01 Setzer, Stewart  
 W01 Sims, Jason G.  
 W01 Taylor, Adam S.  
 W01 Taylor, Kidron E.  
 W01 Trujillo, Iain McKenna V.  
 W01 Tumpap, Micah K.  
 -DG: Distinguished Graduate  
 -HG: Honor Graduate

## WARRANT OFFICER BASIC COURSE (WOBC) AND ADVANCED INDIVIDUAL TRAINING (AIT) GRADUATIONS

AAAA congratulates the following Army graduates of the indicated Warrant Officer Basic course and Advanced Individual Training (AIT) courses at the 128th Aviation Brigade, Joint Base Langley-Eustis, VA and the U.S. Army Aviation Center of Excellence, Ft. Rucker, AL.

### Aviation Maintenance Technician

Class 007-23  
 W01 Joshua Koger \* - DG  
 W01 Hafsatou Kamarake  
 W01 Charles Martin  
 W01 Edgar Surensvelazquez  
 W01 Jairo Enrique U. Ramirez  
 W01 John White  
 Class 008-23  
 W01 Michael A. Carrier \* - DG  
 W01 Todd Andrew Barker  
 W01 Ryan Neil Branum  
 W01 Jacob Tomas Georgeestes  
 W01 Michael Frank Gorham, II

### AH-64 Attack Helicopter Repairer (15R)

Class 036-23  
 PFC Austin Taylor Bonvillain - DG  
 SPC Adrian Soriano Arellano  
 SGT Tyler James Damesworth

SPC Carl James Hunborg, Jr  
 SPC Alec Preston Kennedy  
 SPC Austin David Komosa  
 PV2 Waylon Jason Steiner  
 PFC Laurelle Ann Stokes  
 SPC Austin Bryan Widner  
 PV2 Krystle Cook \*  
 SPC Domicic Tobin

### CH-47 Medium Helicopter Repairer (15U)

Class 035-22  
 SPC Pieter Booyesen \* - DG  
 SFC Aldaknan Khalid Saud K.  
 MSG Almutairi A. Rashed  
 SPC Andrew Aung  
 SPC Alex Bernard  
 PVT Brandon Donastorgmarte  
 PFC Patrick Fleetwood  
 SPC David Hilliard  
 SPC Paolo Pham  
 SGT Ian Sokol  
 Class 036-22  
 SGT Rakan A.B. Alblawi  
 SGT Nicholas Beligotti  
 PVT Rojas Castro  
 PFC Anthony Constantine  
 PVT Frank Crain  
 PFC Casimir Cyriacque  
 SPC Dwine Forkuoh  
 SPC Kristian Gardner  
 PVT Zachariah Lynch

PVT Ramirez Sanchez  
 PVT Maxim Stolyarov  
 SPC Derwonte Walker  
 Class 038-22  
 PVT Dishawn Watson \* - DG  
 PV2 Chace Dunkerson  
 SPC Ramirez Gonzalez  
 PVT Lopez Perez  
 SGT Jason Revelez, Jr  
 SPC William Stephenson  
 SPC Dominick Tresner  
 SPC Travon Williams

### UH-60 Helicopter Repairer (15T)

Class 079-23  
 PFC Charles A. Cortes \* - DG  
 PV2 Andrew Phillip Arnold  
 SPC Rami Raad Attoun  
 PV2 Joshua Holden Blough  
 PV2 Yali Boyntner  
 PV2 Jeffrey Jacques Braham  
 PV2 Joseph Glendell Butler  
 PFC Kenny Eric Cruz, II  
 PFC Samantha Nicole Oos  
 PV2 Gavin Davidzane Reed  
 PFC Elizabeth Ann Schneider  
 SGT Illium Zarco Williams  
 Class 080-22  
 PV2 Shawn Allen Ayers  
 SPC Kyle K. Lemieux  
 CPL Jaden Tanner Mattox

SGT Leonardo Mireles  
 SPC Hector Daniel Ramirezczuz  
 SGT Jorge Damian Rios  
 SPC Cheyenne Michael Runyan  
 SPC Garrett James Sams  
 SPC Christian Nathani Valentin  
 SPC Jeffrey Tom Zablou  
 Class 081-22  
 A1C Charles Osborn \* - DG  
 SPC Ian Dale  
 A1C Cameron Mackett  
 AB Jacob Oswald  
 AMN Tristan Payne  
 AB Dominic Ramsing  
 A1C Cale Smith  
 AB Nathan Waters  
 Class 082-22  
 PFC Brendan Jessen \* - DG  
 PFC Misty Addie  
 SPC Richard Baumeister  
 PFC Trevor Gunter  
 PV2 Gerrit Jalving  
 SGT Jan Leferovic  
 PV2 Benjamin Marshall  
 SPC Kent Sextro  
 PFC Trent Smith  
 PFC Kole Snuggerud  
 PV2 Laura Sustaita  
 PV2 Jose Varelaramirez  
 Class 083-23  
 SPC Josue Agulargonzalez  
 SPC Dukens Arisat

PFC Anthony Cote  
 PV2 Jeremiah Curtis  
 PVT Chance Garza  
 SPC Cyrus Hawkins  
 PV2 Oscar Hernandez  
 SGT Robert Shalaj  
 PVT Dylan Sigler  
 Class 084-23  
 PV2 Joseph Seibold \* - DG  
 PV2 Jacob Basler  
 PV2 Jacob Brown, Jr  
 PV2 Logan Doggett  
 PFC Brian Eisterhold  
 PV2 Parker Gillispie  
 PFC Reva Hamblin  
 PV2 Michael Montero  
 PV2 Calvin Okutani  
 PV2 Edgar Penuela  
 PFC Mace Swaney  
 PFC Mathis Temple  
 Class 085-23  
 PFC Erik Lopezvelazquez \* - DG  
 PFC Andres Acostalebron  
 PFC Nathan Gobble  
 SPC Owen Lazenby, III  
 PVT Jacob Parnell  
 SPC Derrick Peevy  
 SPC Aaronpaul Serrano  
 PV2 Toby Spitzer  
 SPC Cody Tykoski  
 PV2 Jordan Weigand  
 PFC Doyoung Won





# People On The Move

SPC Cameron Zatterberg  
Class 086-23  
PFC Eric Ovcharenko \* - DG  
PFC Rebecca Alcine  
PFC Jacob Allen  
PV2 Shaneil Campbell  
PFC Joshua Cubur  
PV2 Noah Hauanio  
PV2 Brayden Hess  
PFC Jaxon Johnson  
PFC Reiley Manning  
SPC Jennifer Queen  
PV2 Gabriella Rosado  
PFC Landon Wallace  
Class 087-23  
PV2 Noah Jones \* - DG  
SPC Zachary Davis  
SPC Zachary Ernst  
CPL Jacob Ferguson  
SPC Jovany Guzman  
PFC Robin Jat  
SPC Jacky Lai  
SPC Scott Lamb  
PFC Zackary Primm  
SPC Lavar Solomon

## Aircraft Powerplant Repairer (15B)

Class 017-23  
PFC John Ivan Reese \* - DG  
SPC Ericka Liz Crespo Melendez  
SSG Rabih Msawer  
PFC Ryan Richard Olejnik  
PV2 John Sebastia Q. Cintron  
PV2 Gabriel Joseph Sandoval

## Aircraft Powertrain Repairer (15D)

Class 008-23  
PV2 Casey Vernon Collins \* - DG  
MAJ Mohamed Samir Youssif Ali  
PV2 Nickolous Riley Barber  
PV2 Trystan Alexander Brewer  
PV2 Joanna Lydia Coyote  
PV2 Hayden Jack Cunningham  
PV2 Andrew Scott Hastings  
PV2 Guillermo Lopez  
PV2 Jason Michael Masters  
PV2 Brodie T Mauch  
SPC Robert Erik Salas  
PFC Dylan Elijah Sam  
PFC Matthew Neal Schneider  
SPC Ariel Nicole Yates (Thacker)  
PFC Dana Alan Westfall

## Aircraft Electrician (15F)

Class 013-23  
PV2 Jace Ryan Senger \* - DG  
CPL Nestor M. B. Valenzuela  
PFC Ruby Joy Burke  
PFC Khiem Treylee Dinh  
PV2 Corbin Daniel Fisher  
PV2 Dongseop Lee

## Aircraft Structural Repairer (15G)

Class 011-23  
SSG Andrew Lewis Boyd  
SSG Marie Jeanne Fadel  
PVT Cameron Kaden Greenhaw  
SGT Evan Reid Shelton

## Avionic Repairer (15N)

Class 013-23  
PFC Brynna J. McLaughlin \* - DG  
PV2 Drake Micheal Damon  
PFC Joshua A Keller  
PFC Brendan C. Mcpherson  
PV2 Julian Macgyver Quach  
PV2 Jonathan Rivera Galvan

## Aviation Operations Specialist (15P)

Class 22-027  
PFC Lydia Engle - DG  
PV2 Jenisha Vaughn  
PFC Desiree House  
PFC Ryan Kurt  
PFC Jayden Oneil  
PV2 Jamie Joe  
PV2 Juan Gomez-Alfonseca  
PV2 Wilfredo Dominguez-Santiago  
PVT Matthew Ackerman  
Class 22-028  
PVT Brenden Baliko - DG  
PVT India Henderson  
PFC Braxton King  
PFC George Mendieta  
PFC Aaliyah Thompson  
Class 22-029  
PFC Jaxon Moore - DG  
SPC Mingus Craddock  
PFC Destiny Loesch  
SGT Jessica Boyle  
PFC Peter Elatico  
PFC Austin Esposito  
PFC Jade Pollmeier

PFC Abdriel Reyes-Caban  
PFC Maria Rocha  
PFC Carter Smith  
PFC Perfectia Willy  
PVT Cristian Dorantes  
PVT Alan Lambrecht  
PVT Mikerah Lewis  
PVT Joshua Ramdass  
PVT Jasiah Thompson  
Class 22-030  
PFC Amby Bodian - DG  
PFC Adamaris Garcia  
PFC Leo EscobarPerez  
PFC Tavian Johnson  
PFC Trent Martin  
PFC Brayden Mauchley  
PFC Kyle Nguyen  
PFC Alicia Pires  
PFC Jaeden Sears  
PVT Maxwell Whittemore  
PVT Ivan Williams  
Class 22-031  
PVT Tyler Walker - DG  
PFC Malik Whittington  
PV2 Benjamin Baier  
PFC Alicia Pires  
PV2 Tony Jefferson  
PFC Kaleb Strauss  
PFC James Williams  
PV2 Jamey Lemus  
PV2 Blake Richeson  
PV2 Jacob Ware  
PVT Marshaun Brooks  
PVT Quinton Porter  
PVT Lewis Roberts

PVT Kenneth Young

## Air Traffic Control Operator (15Q)

Class 22-022  
SPC Logan Clark - DG  
PFC Velessie Washington  
SPC Chase Brown  
PFC Jasmine Pernell  
PFC Tariq Shamsid-Deen  
PV2 Charles Therrien  
Class 22-023  
PV2 Cameron Douglas  
PFC Jordan Haywood  
SPC Juan Espinosaleon  
SPC Luis PerezMontalvo  
PFC Joshua Montgomery  
PFC Jayden PerezRosario  
PV2 Alec Bury  
PV2 Alex Ramossipimentel  
PVT Jada Smith

## AH-64 Armament/Electrical/Avionic Systems Repairer (15Y)

Class 017-23  
PV2 Canaan Levi Rivers \* - DG  
MSG Hamdan M. H Alharti  
MAJ Elsayed S. H. Elboraei  
PV1 Roberto Gonzales  
SGT Abdullah Ali A Qaysi  
PFC Justin Taylor Quijano  
- DG: Distinguished Graduate  
- HG: Honor Graduate  
\* = AAAA Member

## Unmanned Aircraft Systems (UAS) Graduations

### UAS REPAIRER

AAAA congratulates the following Army graduates of the Unmanned Aircraft Systems Repairer Course, MOS 15E, at Fort Huachuca, AZ.

### Shadow UAS Repairer Course

6 Graduates, 7 November 2022  
PV2 Jermelin Rivera-Salgado  
PV2 Ymani Williams  
PV2 Michael Reed  
PVT Michael Metz  
SPC Rhonda Blackman  
SGT Scott Couchman

### Grey Eagle UAS Repairer Course

8 Graduates, 2 November 2022  
PFC Francisco Silva  
PFC Steven Franco  
SGT Kayla Dachenhausen  
PV2 Bradley Keller  
PV2 John-Michael De Los Santos  
PV2 Campbell Knotts  
PV2 Spencer Potter  
PV2 Christopher Leary

### UAS Operator

AAAA congratulates the following Army graduates of the Unmanned Aircraft Systems Operator Course, MOS 15W, at Fort Huachuca, AZ.

### Shadow UAS Operator Course

6 Graduates, 7 October 2022  
PFC Christopher Flores  
PV2 Kira Riches  
PVT Andrew Buck  
PFC James Donald

PV2 Yogi Harrison

PVT Isaac Nielsen

### Grey Eagle UAS Operator Course

24 Graduates, 21 October 2022

PV2 Ivan Hernandez  
PVT Nicholas Jeppe  
SPC Tara Schmidt  
PFC Adam Reyes  
PVT Noah Moraes  
SPC Navapun Prapungurn  
PV2 Pizarro Santiago  
SGT Phillip Frimpong  
PFC Nathan Griffin  
PV2 Miguel Cruz  
PVT Paco Auces  
PVT Juan Vazquez  
PVT Brenden Josey  
PV2 William Karnes  
PFC Austin Brotherton  
PVT Isaac Haywood  
SPC Jose Linares  
PFC Stephan Musac  
PVT Benjamin Nelson  
PVT Joseph Sachse  
PV2 Daizhawn Stewart  
SPC Dare Polo  
PVT Christian Guerrero  
PV2 James Brinamen

DG - Distinguished Graduate  
HG - Honor Graduate

\* = AAAA Member

+ = Life Member

## ARMYAVIATION MAGAZINE

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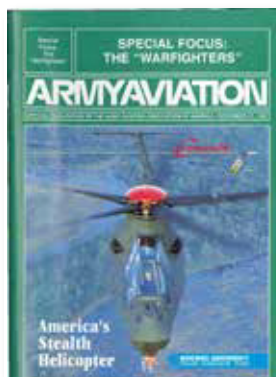
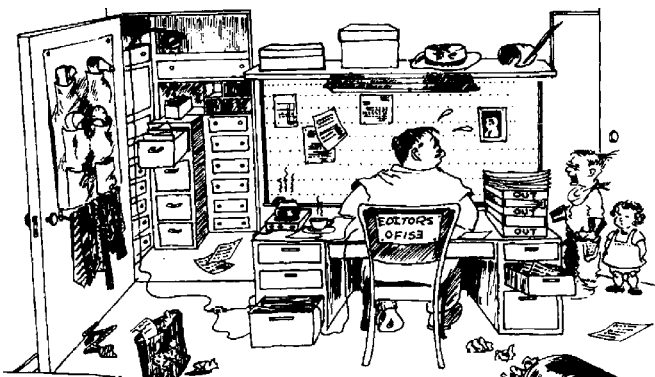
**DEADLINE:**  
January 13, 2023

ARMYAVIATIONmagazine.com

# Art's Attic

By Mark Albertson

Art's Attic is a look back each month 25 years ago and 50 years ago to see what was going on in ARMY AVIATION Magazine. Art Kesten was our founder and first publisher from 1953 to 1987. He was also the founder of the AAAA in 1957 and served as its Executive Vice President. Each month contributing editor Mark Albertson selects a few key items from each historic issue. The cartoon, right, was done back in 1953 by LT Joe Gayhart, a friend of Art's and an Army Aviator, showing the chaos of his apartment-office in New York City where it all began.



## 25 Years Ago December 31, 1997

### 101 School

Veterans of the Office of Strategic Services, Detachment 101, are soliciting financial support for their construction of a School of Agriculture, Forestry and Vocations in Lashio, Burma. The facility will serve the descendants

of the Kachin peoples who supported the guerrilla and sabotage actions of Detachment 101 in Burma against the



occupying Japanese forces during World War II. The present government of Burma has donated 21 acres for the school; a facility which will house 123 faculty and staff as well as 540 students. Checks can be made to "101 School" and forwarded to Roger Hilsman, 251 Hamburg Cove, Lyme, Connecticut, 06371. Phone: 860-434-9912.

### 1997 ASE Award Citation

CW3 Jack B. Pike, 8-229 Avn. Regt. (ATK), Fort Knox, Kentucky, is the 1997 recipient of the 1997 ASE Award. CW3 Pike has made a lasting impact on Army Aviation and Aircraft Survivability Equipment and Electronic Warfare across the entire Armed Forces. During the awards period, August 1, 1996 to July 31, 1997, he was solely responsible for five major, high-impact, ASE/EW actions. CW3 Jack B. Pike (center) receives the 1997 ASE Award from AAAA President, MG Dave Robinson (Ret.), (center left), as PM AEC, Larry Johnston, (left), Colonel

(P) Richard Cody, Commander 160th SOAR(A) and Mr. William P. Leach from the Award's sponsor, Lockheed Martin, look on. Refer to Awards Citation, page 58, Army Aviation, December 31, 1997.



## 50 Years Ago December 31, 1972

### Pick-Up Point

A Boeing Vertol BO-105 lifts off at Hood's Gray Lake picnic area during the Hood Chapter's Annual AAAA Picnic. Some 250 dependents

got a chance to take a ride on October 28. Upwards of 600 members with their wives and guests took part in the day's festivities.



### Training the Young

Gerald D. Brush, a sixteen-year old Explorer Scout, from Tucumcari, New Mexico, was one of more than 200 teenagers who were instructed of the principles of flight this past summer. Some 24 USAR aviators conducted the activities at five locations in Arkansas. Shown with Gerald Brush are CWO



Jimmy L. Ratcliff (right) and FBO John H. Ross (left). The activities were organized to prepare the teenagers for the FAA private pilot examination.

### '71-'72 Army Aviator of the Year

Chicago-born Captain Ronald A. Radcliffe was named AAAA Army Aviator of the Year. During eleven years of service, Captain Radcliffe has logged 2,300 hours as a pilot, 1,900 of which are from three tours in Vietnam. He was attached to F Troop, 4th Cavalry, 1st Aviation Brigade, operating in Military Regions I and III RVN and in Cambodia. Captain Radcliffe was an LOH pilot who beat the odds for eight months until he was wounded. Here he is shown with General Creighton W. Abrams, Jr. (center), AAAA National President. LTG Harry W.O. Kinnard, with Captain Ronald A. Radcliffe. Refer to Captain Radcliffe's award citation, found on page 25, Army Aviation, December 15, 1972







The Army Aviation Hall of Fame, sponsored by the Army Aviation Association of America, Inc., recognizes those individuals who have made an outstanding contribution to Army Aviation.

The actual Hall of Fame is located in the Army Aviation Museum, Fort Rucker, Ala.

The deadline for nominations for the 2024 induction is June 1, 2023

Contact the AAAA National Office for details and nomination forms at (203) 268-2450 or visit [www.quad-a.org](http://www.quad-a.org)

# Army Aviation Hall of Fame

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## COL Harvey E. Stewart, U.S. Army Retired

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*Army Aviation Hall of Fame 2016 Induction -  
Atlanta, GA*

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Joining the Army in 1945 as an aspiring aviator and enlisted man at the age of 17, COL Harvey E. Stewart received the first of his fifty four Flying Medals while serving in Korea as an Artillery Forward Observer in 1953.



A Master Aviator with over 12,000 flight hours and more than 1,000 combat missions, COL Stewart received a total of 11 awards for valor including the Distinguished Service Cross, (the nation's second highest), two Bronze Stars with "V" device, and two purple hearts.

As a Major, Stewart was known as a legendary Army Aviation commander of the 118th Aviation Company from 1964-65 in Vietnam. During the June 1965 Battle of Dong Xoai, the 145th Aviation Battalion's response to the enemy's major offensive was largely coordinated by the 118th led by Major Stewart which later expanded to include the entire 145th and received a Presidential Unit Citation for its part in the battle. In addition, during the battle, Major Stewart volunteered to lead three unarmed rescue helicopters in an attempt to rescue Vietnamese and Americans in an isolated military compound being overrun by hostile forces. Disregarding the withering enemy fire, Major Stewart landed inside the compound and set up defensive fire positions while evacuating personnel. On takeoff, Major Stewart piloted his aircraft, heavily overloaded and damaged, through a barrage of hostile fire and successfully evacuated the besieged personnel. For his heroism at Dong Xoai Major Stewart was awarded the Distinguished Service Cross.

His following assignments included a second Vietnam combat tour, and training aviators for combat at Fort Wolters, TX, as he continued to contribute to the advancement of Army Aviation as a key component of modern warfare.

Highly respected for his personal courage, as a military leader, and as a person, he stood tall for Army Aviation from some of its earliest days to the Vietnam era that changed the face of modern warfare as Army Aviation came of age.



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