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On The Cover

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POTUS Sworn In



President Joseph R. Biden, Jr. takes the presidential oath of office at the U.S. Capitol in Washington, D.C., Jan. 20, 2021, with First Lady, Dr. Jill Biden, at his side.

Austin Takes Over as SECDEF



DDI PHOTO

Former Army Vice Chief of Staff and U.S. Central Command leader Lloyd J. Austin III was sworn in January 22 as the 28th Secretary of Defense. A four-star Army general who spent more than 40 years in the ranks and retired in 2016, he was approved by the Senate following an historic vote making him the nation's first Black leader of the Pentagon.

Whitley Acting SECARMY



DEPARTMENT OF THE ARMY PHOTO

John Whitley, the assistant secretary of the Army for financial management and comptroller, has taken over as the acting secretary until the Senate confirms a candidate. He served in the Army's 2nd Battalion, 75th Ranger Regiment, and has been in his current post since September 2018. Previously, he served as a senior fellow at the Institute for Defense Analyses. He replaces Ryan D. McCarthy who left his post at noon on Jan. 20, 2021 following the inauguration of President Joe Biden.

Marion Acting ASAALT



U.S. ARMY PHOTO

LTG Robert L. Marion assumed the responsibilities of acting assistant secretary of the Army for acquisition, logistics, and technology on Jan. 20, 2021. A Master Army Aviator and former PEO Aviation, Marion has been serving as the military deputy and director of the Army Acquisition Corps since May 2020. He replaces Dr. Bruce D. Jette who left the position on January 20, 2020.

Gill to HQDA Director of Army Aviation



U.S. ARMY PHOTO

The Chief of Staff of the Army announced on Jan. 25, 2021 the assignment of BG Clair A. Gill, Deputy Commanding General (Support), 101st Airborne Division (Air Assault), Fort Campbell, Kentucky to Director, Army Aviation, Office of the Deputy Chief of Staff, G-3/5/7, United States Army, Washington, DC. He replaces BG Mac McCurry who will remain at HQDA as Director of Force Development, G-8.

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Troops who move themselves as part of a Personally Procured Move, commonly referred to as a do-it-yourself, or DITY move, will receive 100% of what the government would pay a contracted moving company. Until May 26, 2020, service members had been reimbursed 95% of the government's "Best Value" for DITY moves. On that date, the Defense Department increased the reimbursement rate by 5% to help clear the backlog of permanent change of station moves caused by the pandemic. According to guidance issued by U.S. Transportation Command, the change became permanent as of Jan. 1, ensuring that service members are reimbursed at 100% for the actual household goods weight transported – up to their allowable amount.

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On Course to the Summit!



A UH-60 Black Hawk belonging to 5th Battalion, 101st Combat Aviation Brigade, awaits take-off during Agile Combat Employment training at Incirlik Air Base, Turkey, Dec. 18, 2020.

U.S. AIR FORCE PHOTO BY SSGT. RIAN JACKET

It is hard to believe it's already February! We at AAAA National Headquarters and your National Executive Group are hard at work to make our Army Aviation Mission Solutions Summit this April a REALITY.

As a reminder, it is 21-23 April at the Gaylord Opryland, in Nashville, TN. I wrote last month that we are taking every means possible to actually hold the 2021 Summit in person and will be announcing enhanced measures we plan to utilize in the near future. Warning order: they could include taking a COVID test at or prior to the Summit, and clearly coming back negative, or showing proof of a completed vaccination series. Please consider receiving the vaccination when it is made available to you. Our Army senior leadership is leading the way, and in fact, many if not most of Army Aviation senior leaders have already received at least their first shot.

Congratulations to America's new Secretary of Defense, Secretary Lloyd Austin. A former Army Vice Chief of Staff and CENTCOM Combatant Commander, he is no stranger to Army Aviation and our contribution to deterrence, warfighting, and homeland support. All of us at AAAA wish him the very best as he undertakes his duties!

For our February issue, PEO Aviation BG Rob Barrie sets the stage for a continued conversation from last month on the challenges and real progress made in PEO Aviation's Objectives: build a FVL ecosystem; ensure the readiness

and relevance of the enduring fleet; and building partner nation capacity. Articles from Future Long Range Assault Aircraft and Future Attack Reconnaissance Aircraft project managers as well as enduring fleet Army Aviation program managers update the status of their programs and processes to build our future capabilities while continuing to keep our current fleets relevant on a complex, multi domain battlefield.

In this issue we also dive into the Army requirements process setting the stage for our aviation project managers. As many know, there is considerable movement to determine the requirements of our future capabilities more rapidly, while ensuring the seamless integration of those documented requirements into actual programs that result in capability to our warfighting units. The articles from the Capability Development and Integration Directorate and Aviation Platforms and Aviation Enablers Requirements Determination Directorates are a MUST READ if you want to understand how this once astonishingly long process is being enhanced and significantly shortened.

Our Branch Chief, MG Dave Francis, takes us into space – literally. His lead in article on D3SOE – Denied, Degraded, and Disrupted Space Operational Envi-

ronment – is an important reminder of the Army's major investment in space and a continued deep interest in maintaining the resulting capabilities. He notes that the U.S. Army is the largest consumer of space enhanced capabilities within DOD. Many of us fought "our" wars with the complete assurance that our "systems" were reliable and accurate and were never jammed or spoofed. That is no longer the case. Our current peer competitors possess significant capabilities to do both. He offers several valuable points for all of us to consider as we deal with this threat to our aviation operations.

In keeping with our monthly "People" highlights, we congratulate SGM "Woody" Sullivan, the first PEO Aviation SGM, as he departs his position. As BG Barrie says, he made "significant and positive lasting impacts!" Best wishes SGM!

We at AAAA are always working to remain relevant to our membership and our branch despite the COVID pandemic restrictions. We continue to work on a virtual Army Aviation Congressional Caucus meeting with the Army Aviation senior leadership, as well as a virtual Army Aviation senior leader update to our AAAA Senior Executive Associates.

As always, I pledge to ensure that AAAA does its part to help YOU: our Soldiers, families, and senior leaders!

MG Jeff Schloesser, U.S. Army Retired
34th President, AAAA
jeff.schloesser@quad-a.org



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▶ Army Aviation Branch Chief's Corner

Denied, Degraded, and Disrupted Space Operational Environment – D3SOE By MG David J. Francis



U.S. ARMY PHOTO BY SGT FELIX CASERED, 1ST ACB, 1ST CAV, DIV, PUBLIC AFFAIRS

Operating effectively in the space domain is a top Department of Defense (DOD) priority. Since Operation Desert Storm, the reliance on space-enabled equipment has expanded exponentially.

Pilots from Company B, Task Force Lobos, 1st Air Cavalry Brigade, 1st Cavalry Division, conduct pre-flight checks from the cockpit of a CH-47 Chinook helicopter April 6.

This equipment not only enables detailed planning and preparation for a full range of operations from dispersed and remote locations, but it is also a central element for the effective employment of tailored forces that are agile, responsive, precise and capable of convergence across significant depth.

Within the DOD, the Army is the largest consumer of space-enhanced capabilities. For example, there are more than 2,500 pieces of space-enabled equipment in a single Stryker brigade combat team (SBCT), and a combat aviation brigade (CAB) is just as dependent on space-enabled equipment as the SBCT.

Why is this an issue? Because the adversaries we fought over the last two decades had little to no capability to in-

fluence our access to space. The adversaries that we may face tomorrow have numerous capabilities designed to deny assured access to space-enabled capabilities. They are developing, improving, training, and – in some cases – employing in combat, their own systems capable of affecting our assured access.

In some cases, the technology is not difficult to acquire and the training to operate this equipment is relatively unsophisticated. This allows non-state actors to operate systems like Global Positioning Systems (GPS) jammers.

Denied, Degraded, and Disrupted Space Operational Environment (D3SOE) is a composite of the conditions, circumstances, and influences which affect the employment of space

effects and capabilities. D3SOE applies to both actions taken within the electromagnetic spectrum and actions taken against physical assets that facilitate our use of space. Impacts to either may seriously influence the flexibility of all the warfighting functions. Collective examples of the threat include signal jamming, signal spoofing, physically or virtually disabling or destroying space assets such as ground control stations and satellites and disabling or deceiving user equipment.

Understanding Composition of the Threat Environment

With the sober realization that there is a re-emergence of a serious threat which we have not dealt with in quite



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some time, the Army's training centers have reinstated some of the aspects of D3SOE at their facilities to reflect the realities of Large-Scale Combat Operations (LSCO).

The preliminary findings from the rotational units at the training centers reflect a poor understanding of the threat's capabilities – and how/where they would be employed. Additionally, aircrews did not understand the effects the threat had on their aircraft systems, and therefore did not recognize the indicators on the instruments within the cockpit (or on the UAS ground control station) that pointed to the fact that they were in a D3SOE environment.

The Acquisition Enterprise is intensely focused on finding ways to ensuring our Positioning, Navigation, and Timing (PNT) in a D3SOE environment and stood up a dedicated PNT Modernization Office in 2020. In addition, the Army established an Assured Positioning, Navigation and Timing (APNT) Cross-Functional Team (CFT). These are both essential steps to addressing D3SOE, but doctrine, education and training remain the keys to successfully operating in a denied environment in both the near and long term.

We have to understand the composition of that environment as we work our way through the five Multi-Domain Problems of competition, penetration, dis-integration, exploitation, and even re-competition. We have to recognize the systems our adversaries have that can affect us, the capabilities of each type of system, and where they will be located in relation to each problem we have to solve.

Begin with the Staff

The first people that should be asking these questions are not the aircrews, but the staff. They are the ones who do the planning and advise the commander and must be able to conduct a cross domain intelligence preparation of the battlefield. Staffs must be educated and trained to integrate D3SOE considerations into the Military Decision Making Process (MDMP) and operations. They must also have the necessary tools available to assist with the planning process.

It is critical for the staff to understand what they are seeing and hearing during the planning process and the operation to help shape the fight. It is also imperative for the aircrews to understand what they are seeing and hearing during the mission, not only to take the appropri-

ate actions in flight, but they are often the most valuable and current source of information to the staff. Therefore, it is critical that the aircrews can distinguish and document any D3SOE events.

The ability for Army Aviation formations to recognize, react and operate proficiently in a D3SOE does not happen overnight; it takes time and training. However, the resources for training D3SOE are probably more readily available than you think. Doctrinally it is addressed in CALL Handbook 18-28, D3SOE, FM 3-0 and ADP 3-0, FM 3-04, Army Aviation, ATP 3-04.1, Aviation Tactical Employment, Army Aviation Training Strategy, and FM 3-14, Army Space Operations. Additionally, USAACE NCOA, AVC3, CGSC P947, AMSOC, and PCC provide D3SOE related instruction.

As mentioned earlier, D3SOE is also exercised and trained at the combat training centers (CTCs). In addition, events such as NAVFEST, an annual event hosted by 746th Test Squadron (Holloman AFB,) provides users with an opportunity to operate in a D3SO environment at White Sands Missile Range (WSMR). The 746th can employ virtually any combination of INS, GPS and/or integrated GPS/INS navigation and guidance systems using multiple jamming techniques and jammer capabilities to meet user training objectives.

Over the years we built a network that allows us to maneuver and have good situational awareness. This network is now at risk and is showing some vulnerabilities. Army Aviation has a history of some pretty impressive and precise combat operations long before we had GPS in the cockpit, because of the well-trained leaders and well-trained Soldiers who were also skilled aviators.

Army leaders and Soldiers will be able to initiate and maintain access to space capabilities and mitigate most attempts to deny, degrade, and disrupt that access. But more importantly, I know that Aviation leaders and Soldiers will become capable of executing combat operations when space-enabled capabilities are not available, so that they can continue to support our troops on the ground and win – because winning matters.

Above the Best!

MG David J. Francis 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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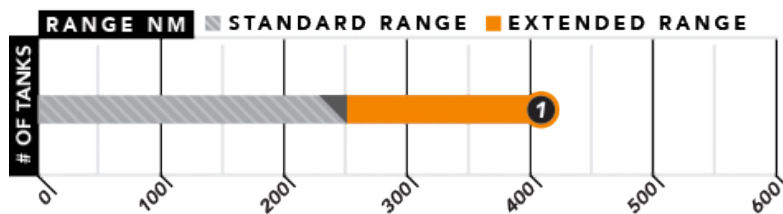
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Program Executive Officer, Aviation Update

By BG Robert L. Barrie



The Program Executive Office (PEO), Aviation team remains focused on delivering advanced aviation capabilities for our Soldiers and allies. Our success relies on the entire Army Aviation Enterprise, and we are fortunate to serve with teammates who share our commitment to unwavering support of our Soldiers.

In the previous issue article, we described how our PEO mission is supported by three primary organizational objectives to align and guide our efforts. Our objectives are nested within the National Defense Strategy and guided by the Army's modernization strategy. In this issue, we'll expand on the objectives, and introduce articles from some of our project managers contained in this month's issue. Across PEO Avia-

tion, the objectives guide us as we design, develop, deliver, and support aviation capability to the field.

PEO Aviation Objectives

- 1 – Build the Future Vertical Lift Ecosystem (FARA, FLRAA, FUAS and MOSA)
- 2 – Ensure the Readiness and Relevance of the Enduring Aviation Fleet
- 3 – Build Partner Nation Capacity

The development of the *Future Vertical Lift (FVL) Ecosystem* remains Army Aviation's highest priority to address our future fight and evolving adversaries. Our team is directly aligned with the FVL Cross Functional Team (CFT) in the design and development of these priority programs. The FVL Ecosystem requires leap-ahead technology to provide the necessary improvements in speed, range, endurance, lethality, and protection needed to operate in the Multi-Domain Operations (MDO) environment. PEO Aviation project managers and engineers, in collaboration with members of the FVL CFT, have already made significant progress towards the four CFT signature modernization efforts: Future Attack Reconnaissance Aircraft (FARA), Future Long Range Assault Aircraft (FLRAA), Future Unmanned Aircraft Systems (FUAS) and Modular Open Systems Approach



U.S. ARMY NATIONAL GUARD PHOTO BY EDWARD EAGERSTON

PEO Aviation ensures the readiness and relevance of the enduring fleet for current and future operations. This CH-47 Chinook helicopter from the Alaska Army National Guard, sits on a runway in the village of Nanwalek, Alaska.

significantly to the development of our next generation platforms by informing requirements and burning down risk.

Affordably executing targeted modernization of the enduring fleet requires change to the old paradigm of completing platform-unique upgrades. Instead, we are now pursuing an integrated aviation portfolio perspective that delivers full combat aviation brigade warfighting solutions. With this holistic approach, we avoid individualized, stove-piped solutions that do not optimize the investments across our portfolio. Our goal is to invest in capability once and leverage it across the fleet. Equally important, integrating these capabilities with our MOSA transformation efforts on the enduring fleet will reduce risk as we develop and field our future fleet.

In this issue, you will also find articles from the Project Managers for Attack, Utility, and Cargo Helicopters. While their efforts may be focused on ensuring the readiness and relevance of the enduring fleet, the project managers support the achievement of all three PEO objectives. The outstanding team at Utility Helicopters Project Office, led by COL Calvin Lane, have done an amazing job with the UH-60V. The UH-60V is the first helicopter to incorporate an open system software architecture which allows rapid and efficient integration of new technology, upgrades, and components. This initiative is informing the implementation of MOSA in FVL.

COL Jay Maher and the Apache Attack Helicopter Project Office have begun fielding the AH-64E_{v6} to Army Aviation units. Their training teams have been working hard to get units ready for their new aircraft. The AH-64E_{v6} is also being delivered to our international partners to further enhance their capability and increase interoperability with our formations.

PM Cargo continues to deliver unique capabilities to the Army and our allies. COL Al Niles has his team fielding new aircraft across the Army, revising and updating CH-47F maintenance schedules, and completing development of the Block II CH-47F. They have been very successful in their endeavors, and the results will benefit the FVL programs and our international partners.

The third objective seeks to *deliver aviation capability to our allies, worldwide*, in order to increase interoperability and build capacity to respond to

shared challenges. FARA and FLRAA are still in development, but their early promise has already drawn interest from our partner nations. Through the international offices within our project management offices, we already support foreign military sales of the Apache, Black Hawk, and Chinook to nations around the globe. Many of the solutions for the U.S. fleet have come by way of our Foreign Military Sales cases to our partner nations and the environments in which they fly around the world.

Our Multi-National Aviation Special Project Office (MASPO) provides rotary wing aircraft solutions for partner nations that do not want or need to fly the same aircraft as U.S. Forces. COL Tim McDonald leads a team of uniquely qualified specialists that solve complex problems to provide aviation capabilities to these allies. His article highlights some of his team's success in finding unique solutions to extraordinary challenges.

The three objectives of the PEO are shared across each of our ten project management offices. As further described in the six project manager articles in this edition, the energy applied to each objective may differ between offices, but each plays a role in collectively advancing all three objectives across the organization.

Before closing, I'd like to express my heartfelt appreciation and thanks to SGM Woody Sullivan as he departs PEO Aviation. The significant and positive lasting impacts he has had on our team while serving as our first-ever PEO Sergeant Major cannot be overstated. In addition to expanding the incorporation of non-commissioned officers into our formation, he is a trusted advisor, and we have come to rely on his counsel and wisdom. Our thanks to Woody as he departs, and to the enterprise for its continued support of this critical position inside PEO Aviation.

Even amidst the challenges we all faced in 2020, the team in PEO Aviation continues to deliver. Our focus remains serving Soldiers and delivering capability – we are at your service for questions, comments, and feedback. The Soldiers, civilians, and contractors of PEO Aviation are honored to serve with you and Army Aviation!

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



Program Executive Office Aviation Update

By CW5 Travis Dixon



U.S. ARMY PHOTO BY SGT JUSTIN SHAW

As Army Aviation transforms into a more lethal and capable force, the Program Executive Office, Aviation workforce is aligning with the Army Aviation Enterprise on targeted modernization of our enduring platforms while aggressively developing the future fleet and building partner nation capacity.

PEO Aviation is working to ensure the readiness and relevance of the enduring fleet for current and future operations. The CH-47 Chinook and AH-64 Apache will remain an essential part of the Army Aviation fleet well into the future. The AH-64E Maintenance Test Pilot Course was one of the first courses in the PEO Aviation's Virtual Training Suite. The UH-60M Maintenance Test Pilot Course, Avionics and Mechanics courses are also available and the MEDEVAC and UH-60V Aircraft Qualification Courses are in the works.

PEO Aviation is working on many programs that support all of these objectives.

A common concept that spans building capacity for the enduring and future fleets is breaking the old paradigm of platform-unique investments and pursuing cross-platform programs. This is required to ensure our future and enduring fleets are affordable, sustainable and upgradeable. The PEO Aviation goal is to invest in a capability once and leverage it across the fleet.

Cross-Platform Programs

The cross-cutting programs affect all aspects of the PEO Aviation mission, not just aircraft and major end items. Every capability, from training to software to hardware, is included in the new business model. One of the new capabilities is the **PEO Aviation Training Resource Center (TRC)**.

The TRC is available now and designed to serve as the Army Aviation Community's one-stop shop for digital training resources. It is published in partnership with TRADOC and features PEO Aviation's Virtual Training Suite (VTS). The VTS is already in use at the UH-60M Maintenance Test Pilot Course (MTPC), AH-64E MTPC, and the Black Hawk and Avionics mechanics courses. The MEDEVAC and UH-60V Aircraft Qualification Courses are in the works.

The TRC includes additional digital training resources on a variety of topics. Interactive Multimedia Instructions produced by the PEO Aviation project offices are available at <https://vts.tradoc.army.mil>. This site provides an easy-to-use interface supporting PM Apache, PM Cargo, PM Utility and PM UAS resources. The content in each of these categories sup-

ports Blackboard, PC, and mobile apps (Android and iOS). Additional training resources such as Performance Based Navigation and Fly-Alert-Diagnose-Execute-Communicate-Fly Emergency Response Methodology training is also available. The .mil site is public facing to provide quick insight into the library of content, but it requires your CAC in order to download the actual training materials.

Another PEO Aviation cross-platform effort is looking at aviation mission planning. Mission planning is currently a static process that relies on the Aviation Mission Planning System (AMPS) with specialized Data Transfer Devices (DTDs). Planners and aircrews must conduct pre-mission planning and load the plans in the aircraft with a unique DTD for each type of aircraft.

PEO Aviation's vision and path forward for improving this process is the

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In the CPCE, the DAMPE software suite will merge AMPS and Tactical Airspace Integration System capabilities into role-based Mission Planning and Airspace Control functions. Critical mission data will be synchronized with the other CEs down to the tactical edge and back to the command post. CPCE

provides an integrated mission command capability across the command post and the platforms, through all echelons, and provides simplicity, intuitiveness, core services and applications, and warfighter functionality for fires, logistics, intelligence, airspace control, and maneuver.

In the M/HHCE, DAMPE will provide Performance Planning Application (PPA) software for the Electronic Flight Bag (EFB). The first version of PPA on the EFB will be the suite supporting the UH-60L/M fleet; work is ongoing to provide PPAs for AH-64D/E, CH-47F, and MC-12 aircraft. Coupling PPAs with the EFB provides the additional benefit of having Army Aviation publications, SOPs, TMs, and other key products on a single device.

M/HHCE capabilities will evolve to include a Common Secure Data Loader to replace the DTDs and a Mobile Mission Planning System. This plugin architecture will facilitate enhanced capabilities for specific mission sets and enable users to navigate using GPS and geospatial map data with real-time situational awareness of ongoing events.

DAMPE in the MCE will be an extension of M/HHCE software. Select functionality will be migrated to the MCE and hosted on the Mounted

Family of Computer Systems using applications and plugins. This will facilitate real-time changes to the plan that are synchronized across all CEs and available to planners and decision-makers regardless of their location or what computing devices they are using.

These are exciting times as we move to bring mission planning and airspace control capabilities into an integrated software suite that spans computing environments from the command post to the tactical edge. Effective mission planning must take place anywhere and anytime needed. DAMPE will be able to support a variety of devices and data frameworks to enable Multi-Domain Operations and Joint All Domain Command and Control.

I would be remiss if I didn't wish farewell to my battle buddy SGM Woody Sullivan. It has been an honor to work with a consummate professional who is committed to PEO Aviation's success and our focus on the Warfighters that we support. Best of luck in your next role and I look forward to staying in touch with you moving forward. Farewell, friend!

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

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Noncommissioned Officers Are Critical to the Project Managers

By SGM R. Woody Sullivan



U.S. ARMY NATIONAL GUARD PHOTO BY SGT BRADLEY A. COONEY

In the December issue, I discussed the benefits, in general terms, of adding noncommissioned officers to the Program Executive Office, Aviation project offices.

The NCOs assist the project managers in meeting PEO Aviation and PM objectives, and provide valuable insight on the systems and subsystems that enlisted crewmembers, maintainers and aviators are expected to operate and maintain.

Working in program, fleet and logistical management positions, NCOs have firsthand experience in turning wrenches, crewing helicopters, or operating unmanned aircraft systems in combat and non-combat environments. With the assignment of NCOs to the PMs, their understanding of what enlisted aviators deal with is applied early in the aviation system and subsystem development process, and their input

has already begun to bear fruit. I'd like to highlight one of those NCOs to show the important role that NCOs play in the PMs.

SFC Richard A. Sosa is the PM Cargo NCOIC. He is a CH-47 Helicopter Repairer and Crew Chief with more than 15 years of experience, and he has served in a variety of aviation related positions. SFC Sosa and Hank Rexing, the CH-47 Fleet Manager, recently conducted an after-action review with the Oklahoma Army National Guard. During the AAR, the enlisted members seemed reluctant to open up on issues or questions regarding a recent combat deployment. With his experience and rank, SFC Sosa built

Members of the Downed Aircraft Recovery Team with Company B, 834th Aviation Support Battalion brace as a CH-47 Chinook helicopter approaches in Tulsa, OK. SFC Sosa, PM Cargo NCOIC, and Hank Rexing, the CH-47 Fleet Manager, recently conducted a post-deployment after-action review with the Bravo Company Soldiers to gather lessons learned from their deployment.

a rapport and engaged the Soldiers by bringing up issues widely known to CH-47 maintainers. This encouraged the enlisted aviators to participate and discuss logistical support, maintenance design, ground equipment support, and maintenance publication issues. Afterwards, he exchanged contact information with the enlisted aviators and took home a list of issues to research and respond to. SFC Sosa worked across the staff to develop solutions and provide feedback to the Soldiers. His presence gave the enlisted Soldiers a voice and allowed the fleet manager to focus on

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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 2018 National winners were featured in the April/May AAAA Annual Summit issue.



SFC Jesse R. Jernigan

**Company A, 1st Battalion,
101st Aviation Regiment
Task Force Shadow
Camp Marmal, Afghanistan**

Noncommissioned Officer of the Year Award, 2018

Sponsored by Lockheed Martin Corporation

SFC Jesse R. Jernigan performed with unparalleled excellence during his combat deployment to Mazar-e-Sharif and Bagram, Afghanistan in support of Operations Freedom's Sentinel and Resolute Support XVIII-XIX as a member of Alpha Company, 1st Battalion, 101st Aviation Regiment, task organized to 6-101st General Support Aviation Battalion (GSAB) TF Shadow. He served with distinction as the company's senior mechanic, technical inspector, platoon sergeant, remote site NCOIC, and acting First Sergeant.

The company's execution of persistent split based operations, often in three simultaneous locations spread across 200 miles of battlefield, demanded he serve in a multitude of roles often with competing interests. The pressures he led his undermanned and under resourced team steadily through were immense. The unmatched maturity, mental agility, and resolve with which he approached this challenge was directly responsible for the company's unparalleled ability to provide attack aviation support to United States Special Operations Forces. During the deployment he supervised the company's execution of over 500 maintenance tasks, countless maintenance operational checks, and successful completion of over 12 expeditious aviation packages.

standing at what they do and demonstrate the Army values every day.

Farewell

As I prepare to depart PEO Aviation later this Spring, I would like to take a moment to express my sincerest gratitude to the entire PEO Aviation team for allowing me to serve as their Sergeant Major for the past two and half years. This has been a humbling experience, but it has also been one of the most gratifying I've had in my career. It has been my honor and privilege to serve and work with such tremendously talented Soldiers, civilians and contractors. I would like to express my sincerest appreciation to LTG Todd for affording me the opportunity to not only serve as his Sergeant Major but to serve as the first Sergeant Major of PEO Aviation. Special thanks to the command team led by BG Rob Barrie and Mr. Pat Mason, who have provided great leadership and a vision for me to operate and serve as a main point of contact for combat aviation brigade and combatant command CSMs, along with National Guard and Army Reserve units. My thanks to my fellow 4-Pack CSMs, CSM (R) Brian Hauke, CSM Mike Dove and CSM Jimmy Wilson, who treated me like a true team-mate and provided mentorship throughout my tenure. With the help of the 4-Pack, we were able to add NCOs to PMs Cargo, Utility and two positions in PM UAS. Thanks to the NCOs of PEO Aviation who lead and participate in after action reviews, interact with Soldiers from various components and help to determine suitability of future programs. Finally, I would like to thank my battle buddy CW5 Travis Dixon. CW5 Dixon brings a wealth of knowledge, passion and dedication to PEO Aviation. His willingness to share his knowledge and insight will serve PEO Aviation for years to come.

Even though I am leaving PEO Aviation, please continue to reach out to me for assistance. I am just an email away, roy.w.sullivan.mil@mail.mil, and if I cannot answer your question, I will find someone who can.

My very best!
"One Team!"

Woody

Editor's Note: On behalf of the ARMY AVIATION Magazine team, our thanks to SGM Woody Sullivan for his support over the past two and a half years and we wish him all the best in his follow-on assignments.

other issues. He has also played a role in larger, farther-reaching programs.

The PM Cargo Fleet Management Division is implementing MSG-3, a new scheduled maintenance program for the CH-47F helicopter. SFC Sosa has been an integral part of training and supporting CH-47F cargo helicopters units on the new program across the Army. He supports the unit Quality and Production Control Offices by answering transition support and new equipment questions. Using his experience, SFC Sosa also trains the enlisted maintainers on newly developed aircraft inspection methods.

Last year, SFC Sosa supported the fielding of new CH-47F capabilities to an aviation unit in South Korea. He stayed with the unit in order to identify the friction points as they transitioned to the new aircraft. He brought back

those lessons learned and best practices for inclusion in the new scheduled maintenance program training. As part of the transition, SFC Sosa also provided oversight for a team of contractors as they worked to resolve structural issues on the CH-47F helicopters.

SFC Sosa's presence in PM Cargo, along with the NCOs supporting the other PMs, provide an invaluable tool to PEO Aviation. They connect with the Soldiers out on the flight line turning wrenches, crewing helicopters, or operating unmanned systems throughout the Army. They are at the point in their careers where they are depended upon to be exceptional at their occupation and project a presence of professionalism while being the critical conduit that ensures enlisted Soldier feedback is part of the aviation systems development process. They are out-



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ASMIS 2.0: Your New Mishap Reporting Tool ... And So Much More

By COL Ronald L. Ells

Preventable mishaps are one of the gravest threats to not only Army readiness, but the very lives of our Soldiers, Department of the Army Civilians and other support personnel.

In absence of a crystal ball, the USACRC relies on timely and accurate mishap reporting to perform predictive analysis of trends across the Army's various branches and, in turn, push that critical information to leaders at all levels. New and emerging technologies are lending greater fidelity to these processes than ever before, and the USACRC has harnessed those capabilities in the recently released modules of the Army Safety Management Information System 2.0 (ASMIS 2.0).

In January 2015, the USACRC, in conjunction with the Deputy Assistant Secretary of the Army-Environment, Safety and Occupational Health, Office of the Surgeon General, and participants representing all Army Commands, Army Service Component Commands and Direct Reporting Units, began a comprehensive review and ultimate overhaul and modernization of the Army Safety Program. This assembly analyzed and identified key elements of a Safety and Occupational Health (SOH) management system that meets federal, Department of Defense and Army regulatory requirements, and began development of an entirely new system called ASMIS 2.0. This tool is a "system of systems" consisting of five modules:

1. Program Management
2. Assessments and Inspections
3. Mishap and Near Miss Reporting (MNMR)
4. Training and Education
5. Hazard Management

From June through September 2020, select Army units validated functions and capabilities of the MNMR module during a limited release period. In October 2020, the USACRC released the module Army-wide and officially replaced the current mishap reporting system. The MNMR module contains many improvements over the legacy system, including an intuitive drop-down tab interface that makes reporting mishaps easier and quicker. An interface with authoritative databases that auto-populates fields and



streamlines the reporting process is also included. This provides the ability to capture the right data from minor mishaps, thus improving analysis and fidelity of the commander's risk management program through customizable dashboards that provide greater visibility of a unit's safety program.

Development of the remaining ASMIS 2.0 modules continues. The Assessments and Inspections module will begin limited testing in the first quarter of FY21 to validate functionality, training requirements and communication strategy ahead of anticipated Army-wide release in the second quarter. The third module, Hazard Management, is scheduled for release in the fourth quarter of FY21. Business process re-engineering and development and stratification of requirements for the remaining two modules was completed in FY20. Development of the Program Management module will begin in FY21, followed by the final Training and Education module. The complete system is currently on track for completion during FY23.

All that being said, what's in it for you? Providing commanders and senior leaders with near real-time information at their fingertips (dashboards), ASMIS 2.0 will enhance commanders' shared understanding of their units' health and readiness posture, mishap loss trends, hazards, and risks with tacit mitigations. As the IT application, ASMIS 2.0 will provide a "one-stop shop" for all SOH data linked to a multitude of authoritative data sources and present relative information in an intuitive, friendly, and commander-centric manner. This will ensure the right people have the right information, in the right form, at the right time based on function and focus on strategy, tactics, and operations.

If you or your teams have any questions or feedback about the new reporting tool, please let me know. We're here for you!

Readiness Through Safety!

COL Ronald L. Ells is the deputy commander of the Combat Readiness Center at Ft. Rucker, AL.

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Not An Ordinary Fire Season

By MAJ Sean Summerall



LOS ANGELES TIMES PHOTO BY MARCUS WAIN - BY PERMISSION

The California Army National Guard's 40th Expeditionary Combat Aviation Brigade (ECAB) (TF Phoenix) is no stranger to wildland firefighting. After a light season in 2019, all appeared well going into the 2020 season until COVID struck and hampered some of the normal preparation.

The California Military Department along with California Department of Forestry and Fire Protection (CAL FIRE), United States Forest Service (USFS) Region 5, and the National Park Service (NPS) have an Interagency Operating Cooperative Agreement that

has matured over the course of decades. It supplements the Military Use Handbook and the interagency standards for helicopter operations by codifying specific procedures that have been perfected over decades of use. It goes into great details on various topics such as: color

CH-47F aircrews from the California Army National Guard conducting water bucket operations during recent wildfire support.

and paint schemes for the helicopters to support "see and avoid" and allow CAL FIRE airborne aviation manager (called Air Attack) to see the military helicopters from above that would normally blend in with the terrain; personnel, equipment, training, and logistical considerations for employment across the large State. The training that normally occurs over a 2-3 day period includes CAL FIRE, USFS, NPS, Soldiers from the Army National Guard, and Airmen from the Air National Guard. The

training contains an almost exhaustive list of topics: Incident Command System, Activation / Deactivation procedures, Performance planning, Wildland Firefighting Techniques, Fire Behavior, Multi-Band Radio Procedures, Fire Shelter Operations, operating in a Fire Traffic Area, and Helibase operations to name a few. The culmination of this training includes water bucket operations with CAL FIRE Military Helicopter Managers on board the aircraft and a simulated incident to help ensure multi-echelon training occurs for military interagency liaisons, as well as fire service personnel. Due to COVID, in 2020, training occurred in a decentralized and reduced fashion in order to mitigate the spread of the virus.

As the 40th ECAB entered into the fire season, there were issues of major concern. First, the entire *Western Region's aircraft availability* was severely degraded due to multiple deployments across the Western States. Second, was the *40th ECAB's preparations for a future mobilization*.

Disrupting the normal routine of the 40th ECAB's fire season was a *full activation of the 40th ECAB in California*

in support of Civil Unrest, which saw every Soldier in the ECAB activated to support various missions, from aviation and maintenance operations to security missions normally reserved for ground crews. A large operational tempo in June and July resulted in California asking for mutual support through the Emergency Management Assistance Compact during the months of August and September.

The 40th ECAB garnered national attention during the Mammoth Pools Reservoir Incident when two fire tornadoes caused the Creek Fire to rapidly advance inside of the Sierra National Forest. On the afternoon of September 5th, campers and boaters found themselves surrounded by incoming fire with no escape routes. The Madera County Sheriff made a request for support to the California Office of Emergency Services for helicopter resources. With less than three hours from notification, a CH-47F crew from Stockton and a UH-60M crew from Fresno would assemble, preflight, obtain minimal mission information and launch on a dramatic night vision goggle rescue of 263 personnel from Mammoth Pools. The

crews ultimately made three trips into the mountainous terrain with visibility decreasing to less than ½ mile in order to accomplish the rescue.

Two nights later, these same crews were joined by two other California Army National Guard crews and a Navy Crew from Naval Air Station Lemoore to conduct additional rescues throughout the forest.

Crews, aircraft, maintenance, and operations personnel from Arizona, Idaho, Illinois, Nevada, Oklahoma, Utah, West Virginia, Wisconsin, and Wyoming joined personnel from California to provide support on six of the largest fire complexes within the State: five of which were the largest fires in State history. As a team, the aircrews flew 1,345 hours, dropped 2,562 buckets of water totaling more than 3.0 million gallons and rescued, saved or evacuated 545 personnel.

Always Ready, Always There!

MAJ Sean Summerall is the S-3, 1-140th Assault Helicopter Battalion and the Operations/Civil Support Coordinator for Directorate of Aviation and Safety, California Army National Guard, Fresno.

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Airworthiness Requirements

By Mr. David Cripps

In earlier Tech Talk articles, the concept of airworthiness requirements has been mentioned, but not discussed in any detail. This article will correct that and provide insight into why have them in the first place.



Airworthiness requirements can be thought of as the **building code** for aircraft. The intent is that when complied with (and when the aircraft is operated and maintained in compliance with approved procedures), the aircraft will be safely capable of achieving flight, sustaining flight, and recovering from flight. Each requirement seeks to prevent a particular hazardous condition. Collectively, airworthiness requirements provide comprehensive protection from all known hazards that the aircraft could encounter.

Each airworthiness requirement is comprised of three basic elements – **Criteria, Standards, and Means of Compliance**. The *criteria* are the specific elements of concern, things like structural integrity, electrical loads on circuits, airframe vibrations, drive systems, fuel tanks, fire detection, electromagnetic vulnerability of critical components, primary flight displays, flight control systems, engine fuel controls, hydraulic pumps, actuators, and a myriad of other components and systems on an aircraft as well as the data networks that tie many of them together. The *standards* are the very specific levels of performance or design features that each of the criteria must meet. For the most part, the standards are defined by industry standards for aerospace systems, but several are unique to military application (e.g., gunfire vibration, missile/rocket motor exhaust plume effects, weapons jettison, etc.). And some industry standards are modified to account for the military environment that differs from the civil environment (e.g., self-sealing fuel tanks, ballistically tolerant structure, electromagnetic effects for operation near emitters operating in frequency bands restricted for military use, etc.). The *means of compliance* are the specific methods that need to be used to demonstrate that the criteria meet the applicable standards. Many of these methods are specifically defined in the applicable industry standards document or as modified by a military standard. The methods generally involve testing, demonstration, analysis, comparison to previously qualified systems/components, inspection, modeling, simulation, or a combination of these.

For the Army, the airworthiness requirements are contained within a document called the Army Military Airwor-

thiness Certification Criteria (AMACC), which is roughly 800 pages plus another 1000 pages of reference material and guidance. The AMACC is an exhaustive listing of all known criteria and their accompanying standards and means of compliance. But not all criteria are applicable for all aircraft types. An obvious example would be any criteria associated with protection of occupants in the event of a crash or hard landing for an unmanned aircraft, but there are other less obvious ones. The applicability of any criteria is dependent on the specific design of the aircraft. When a new design is proposed for development, whether a new model aircraft or a modification to an existing aircraft, the airworthiness authority provides an Airworthiness Qualification Plan (AQP) to the program manager. The AQP is essentially a tailored subset of the AMACC based on the level of knowledge of the intended design. The program manager provides the AQP along with a set of operational capability requirements to the company that is designing, qualifying, and producing the aircraft or integrating the modification. The company then, with the detailed knowledge of their design, prepares an Airworthiness Qualification Specification (AQS) which lists the specifics of how they intend to satisfy all the airworthiness requirements laid forth in the AQP. The AQS is reviewed and approved by the program manager and the airworthiness authority and becomes a contractual obligation. As the development program proceeds, each requirement is addressed in accordance with the approved AQS, with airworthiness authority concurrence that the requirement has been satisfied. Any requirements not completely satisfied are assessed in terms of any presented hazards, which are then addressed in accordance with the program manager's System Safety Management Plan. Following that, the appropriate airworthiness authorization is issued, permitting flight.

Dave Cripps is the Chief Airworthiness Engineer at the Systems Readiness Directorate of the Combat Capabilities Development Command Aviation and Missile Center located at Redstone Arsenal, AL.



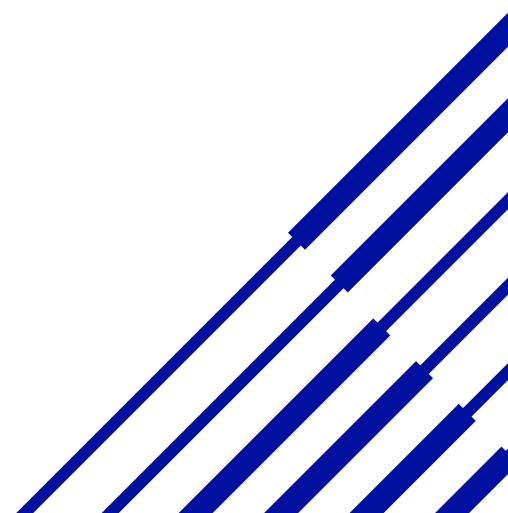
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BELL V-280 VALOR

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Intervertebral Disk Disease

MAJ Theresa M. Long

Q. I am a senior UH-60 pilot who was recently permanently grounded for chronic lower back pain after having lumbar disc fusion.

I still have some recurrent numbness, tingling and pain in my legs that requires treatment with a drug called Gabapentin. I currently have a P2 for no sit-ups and an alternate aerobic event. I have a friend in the Infantry who was sent to the medical evaluation board (MEB) and medically retired for almost the exact same thing. Why doesn't my flight surgeon submit me for an MEB too?

FS: This is an excellent and common question. It is important to understand that Soldiers are referred for an MEB when 1.) they have a P3 profile that indicates they are unable to perform one or more of the functional Soldiers tasks, such as wearing body armor, and 2.) their medical condition has reached the medical retention determination point (MRDP). MRDP is reached if the medical condition has stabilized or cannot be stabilized in a reasonable period of time for up to 12 months and impacts successful performance of duty. This is in accordance with AR 40-502 Medical Readiness.

The Army compensates Soldiers only for the conditions that ended their career, and the Department of Veterans Affairs compensates Soldiers for the conditions that impact their life. The percent disability is awarded according to the Veterans Affairs Schedule Rating of Disabilities (VASRD). There are four potential outcomes from a medical evaluation board: 1) unfit- separated from service 2) unfit- medically retired and 3) retained on active duty within the limitations of their profile and 4) temporary duty retirement list (rare).

Unfortunately, some medications, like Gabapentin, are not compatible with flight status given side effects that pose a significant safety risk in flight such as cognitive impairment, sedating effects,

decreased reaction times and degraded overall performance. However, that does not mean that your Army career is over. There are still numerous other non-flying positions you can be assigned to. However, if you cannot perform any of the functional Soldiers tasks, you are required to be issued a P3 profile and referred to the MEB.

I recommend that you make an appointment with your aeromedical provider and go over your profile limitations and treatment options. Meeting with your healthcare team is necessary to determine if you can perform all functional Soldier tasks and are appropriately profiled.

Background on Intervertebral Disc Disease

Intervertebral Disc Disease (ex: herniated nucleus pulposus, bulging disc, degenerative disc disease, foraminal impingement, spinal stenosis) is a frequent finding on advanced imaging in all populations regardless of presence or absence of symptoms like numbness, tingling or shooting pain. Research indicates that about half of 50-year olds who have no back-pain symptoms, will have a herniated disc on MRI. Furthermore, about 80% of all back pain completely resolves in a couple of months. Therefore, MRIs or x-rays are not generally ordered on your first visit to the healthcare provider for back pain. Back pain among aircrew members is not uncommon and research is ongoing as to possible causes and their mitigation. Degenerative changes of the neck and back have been associated with a higher number of accumulated flight hours. There have been investigations on a possible relationship between whole body vibration (WBV) induced during helicopter flights, degenerative changes

and the potential synergistic effect with poor in-flight postures. I recently did a data analysis examining whether UH-60 and CH-47 pilots or back seaters were more at risk of having documented intervertebral disc disease. The results showed back seaters had a slightly increased risk. This may be related to the type of duties they perform (i.e., loading equipment or patients). The study also showed that both female pilots and back seaters were 1.2 times more likely to have a reported diagnosis of IDD than their male coworkers.

Injury Prevention in the Aviation Environment

Recognizing when we are most at risk for back injury and reinjury is key to prevention. Although sometimes it is a significant straining event like lifting weights, it is usually small repeated loads like picking up the daily newspaper that creates back injuries because we don't prepare ourselves for the small, everyday movements like we prepare for a lift in the gym. It is found that spine injuries are most likely to occur when dehydrated, during the first 30 minutes after arising in the morning and after prolonged sitting. So to reduce the chance of injury and/or re-injury of the spine, individuals should avoid high risk activities under these conditions. This can sometimes be a difficult task for our aircrew members, so remember to stay hydrated, engage in core strengthening exercises, stretch regularly, maintain good body mechanics when lifting any objects (heavy or relatively light) and be mindful of the increased risk of injury after prolonged flights.

Fly Safe!

Questions?

If you have a question you would like addressed, email it to AskFS@quad-a.org; we'll 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.

MAJ (Dr) Theresa M. Long is a flight surgeon at the U.S. Army School of Aviation Medicine at Fort Rucker, Alabama.

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AH-64E Version 6 – Fielding the Future Today

By COL John (Jay) Maher

The AH-64E Apache is the Army's premier attack helicopter and a vital component in every attack battalion (AB) and air cavalry squadron in each combat aviation brigade. The platform remains a critical capability in Multi-Domain Operations and will be the heavy attack platform in future Aim-Point 2035 force structures. In support of Program Executive Office, Aviation objectives, the Attack Helicopter Project Office is focused on Ensuring the Readiness and Relevance of the Apache Aviation Fleet and Building Capacity in our Partner Nation's Apache fleets.

The AH-64E version 6 (AH-64Ev6) is the latest modernization upgrade to the enduring aircraft that includes multiple sensor systems to increase target acquisition performance, additional weapons and software to increase lethality, and software enhancements to increase crew situational awareness and

reduce crew workload. The program is a phased modernization program with multiple technology insertions during production. These insertions provide the final capabilities outlined in the Army's current requirement documents for the AH-64E. The modernized Apache platform is also an active resource that supports the evaluation and maturation of technologies to inform the development of Future Vertical Lift platforms.

The AH-64Ev6 adds mission critical updates including sensor, mission command and weapons performance enhancements. The aircraft leverages technology improvements, addresses obsolescence issues in older AH-64D/E versions and enables Army Aviation to conduct doctrinal attack, reconnaissance, movement to contact, and security missions across the full spectrum of military operations. Additionally, AH-64Ev6 equipped units are

able to execute Joint Combined Arms Operations across multiple domains (land, air, and sea). Overall, the sensor suite upgrades are the biggest Soldier/pilot favorite for the v6.

Sensor Suite Upgrades

The Generation III Modernized Day Sensor Assembly (Gen3DSA), Generation II Radar Frequency Interferometer (Gen2RFI), Extended Range Fire Control Radar, and Upper Rail Extension have all received great feedback.

The **Gen3DSA** provides the copilot-gunner (CPG) with an entirely new suite of sensing and sighting technology. It augments the Modernized Target Acquisition Designation Sight's Forward Looking Infrared (FLIR) with near-infrared (NIR) and full color video, a new eye-safe dual mode laser rangefinder, and a turret-embedded laser pointer. Pilot night vision sensor blending with



U.S. ARMY PHOTO

Crews from 101st Combat Aviation Brigade (CAB) conducting Combined Arms Live Fire Exercises (CALFEX) at Grafenwoehr Training Area in Germany. The 101st CAB is equipped with the Army's newest AH-64E aircraft.

an extended range picture-in-picture display are also included. With minimal change to current switchology and an intuitive pilot-vehicle interface, a CPG can be trained and ready to fight with Gen3DSA in minimal time.

The *AN-APR-48B Gen2RFI* incorporates three core technological advancements in Radar Frequency (RF) detection and location capabilities above the previous radar frequency interferometer. They include: Acquisition-Early threat detection/warning of RF threats through passive operation; an Identification-Enhanced library that facilitates target identification, prioritization and reduces fratricide; and Direction and Location-System automation that collaborates with like systems, providing rapid direction and location calculations, reducing exposure and increasing survivability.

The *Cognitive Decision Aiding System*

(*CDAS*) adds a new layer of automation for Apache aircrews aiding in achieving time-on-target or preventing the crew from flying through a threat's engagement ring. The aircraft now examines its own route, the threats along the way, its eventual target and suggested routing, battle positions, and the airspeeds necessary to accomplish the mission on time. Decision aiding systems that consider the operational environment, the friendly and enemy situation, and the mission at hand will effectively prioritize aircraft and mission information.

The *Joint Air-to-Ground Missile (JAGM)* system provides an improved air-to-ground missile capability with a conventional semi-active laser (SAL) seeker and a millimeter wave radar seeker in one missile. The dual-mode seeker allows for active fire-and-forget with laser cueing and target designation modes where the millimeter wave radar and SAL seekers work together. These new modes, along with additional target specific logic, make a missile with a higher probability of hit and kill with any Apache sight.

The v6's new *Area Navigation (RNAV)* features reduced pilot workload by improving on previous AH-64v4 functionality. The RNAV incorporates baro-aided vertical navigation. After being initialized, the v6 RNAV will sequence through departure, en route, approach, and missed approach segments, providing altitude cueing and tactical situation display visualization along the way.

The first unit equipped with the AH-64Ev6 is the 1-229th AB at Joint Base Lewis-McChord, Wash. PM Apache tackled the mission of fielding and training the Tigersharks and delivered the first four aircraft to the unit in July 2020. The unit's remaining aircraft will be delivered by March 2021.

Training

Despite challenges associated with the COVID 19 pandemic, PM Apache leveraged the Apache New Equipment Training (NET) team's unique structure, talents, and culture to set the stage to deliver this newest and most lethal version of the Apache helicopter into the hands of Soldiers. Their mission is to perform NET to fielded AH-64Ev6 units with a self-contained training package that supports the Training and Doctrine Command Additional Skill Identifier and Military Occupation Skill producing courses of instruction for AH-64Ev6 pilots and maintainers.

To further prepare the readiness of the fleet and its pilots/maintainers, PM Apache conducted seven AH-64Ev6 differences courses and three AH-64Ev6 maintenance test pilot differences courses. To optimize and improve the training, PM Apache worked with the Army Field Operating Agency, Directorate of Evaluation and Standardization (DES) to participate in the training and provide feedback. DES provided PM Apache with thorough after-action comments which informed changes to the AH-64Ev6 program of instruction.

International

The AH-64 Apache remains a vital component to 16 partner nations' strategic and tactical defense plans, as well as supporting multinational operations around the world. Our international allies are partnered with PM Apache in delivering the AH-64Ev6 capability to the front lines around the world. Through Foreign Military Sales (FMS), foreign partners have contributed additional capabilities, along with funding, to equip the Apache with a common operating system, referred to as Common Configuration. Advancing future operating systems now have the opportunity to combine resources across multiple customers to improve the Apache's capabilities. Our international partners were among the first to receive the AH-64Ev6 and we are currently delivering aircraft to our third FMS customer. Three more customers are slated to start production with their Apache deliveries over the next five plus years. Interest in the Apache helicopter continues to grow among the international community with more than 10 countries looking to either upgrade their current fleet or build their first Apache fleet.

The Attack Helicopter Project Office continues to innovate and improve the capabilities, sustainment, safety, and maintainability of the Apache for the pilots and maintainers around the world. Our skilled and motivated team's first priority is to provide warfighters with the necessary capabilities to win any fight both today and on tomorrow's battlefield.

Attack!

COL John (Jay) Maber is the project manager for the Apache Project Office, Program Executive Office for Aviation, Redstone Arsenal, AL.



Sunrise over a CH-47 Block II aircraft.

U.S. ARMY PHOTO BY VIG ESTRADA



PM CARGO Update By COL Al Niles Jr.

The Cargo Helicopter Project Office (PM Cargo) continues to deliver mission critical heavy lift capability to our forces and is fully engaged in fulfilling Program Executive Office, Aviation's primary objectives: Build the Future Vertical Lift Ecosystem, ensure the readiness and relevance of the enduring Aviation fleet and build partner nation capacity. Despite the transition to a predominantly telework environment and the challenges of the COVID-19 pandemic, the Project Office continues to support Soldiers and deliver this unique capability around the world. In addition to the on-going CH-47F Block II Engineering and Manufacturing Development (EMD) program, PM Cargo continues to deliver Block I aircraft and field improved aircraft software to U.S. Forces while simultaneously delivering aircraft to our Allies.

The **CH-47F Block I** Team continued to deliver remarkable results despite the challenges that 2020 provided. They successfully delivered 19 production aircraft, installed 103 modification work orders (MWO), and trained 142 Aviators and 71 mechanics. The industrial base responded to the pandemic with incredible agility. Many of our

industry partners endured temporary facilities closures, reduced operating hours, and decreased manning levels. Despite these challenges, the supply chain delivered all aircraft on time. In all, more than 500 CH-47Fs have been delivered to date.

The **New Equipment Training (NET)** team has shown amazing flexibility in working around the COVID-19 related travel restrictions. They conducted fielding events at Fort Bliss, Fort Drum and Fort Hood, as well as to Army National Guard units in Alabama, Colorado, Illinois, Maryland, Oklahoma and Texas. These units received new capabilities including Automatic Dependent Surveillance Broadcast Out (ADSB), upgrades to the Common Avionics Architecture System (CAAS) and Digital Advanced Flight Control System (DAFCS). The three-year NET/MWO fielding is ongoing and is scheduled to complete all units by the end of 2022.

The new **CH-47F Scheduled Maintenance Plan (SMP) Maintenance Steering Group – 3rd Task Force (MSG3)** is based on the Airlines industry standards and is currently being implemented across the fleet. The product of a multi-year effort to review sched-

uled maintenance involving representatives from all the Chinook stakeholders has resulted in revised maintenance schedules and moving heavy inspections/phases out by 60%. To date, over half the fleet has transitioned to the new schedules and we expect up to a 3% reduction in Not Mission Capable Maintenance rate, and a corresponding increase in Full Mission Capable rate across the units and Chinook fleet. A reduction in induced maintenance and subsequent need for repair parts/components is also expected. The ongoing collection and review of feedback from units, as well as field level maintenance records, and fleet reliability and other data, will play a major role in continuously optimizing the SMP MSG3.

Our team is fully engaged with the PEO's **FVL ecosystem development**. We are sharing lessons learned and participating in the development and implementation of open systems architecture strategies. Our software professionals have delivered new CAAS and DAFCS capabilities including Roll Wings Level, a lifesaving technology that provides automatic aircraft attitude recovery when Aviators encounter spatial disorientation. The Decelerate and Descend capabilities improve aircraft

handling qualities, allowing the aircraft to automatically maneuver to a stationary 20-foot hover. These solutions help inform the Army requirements and developer community on how to best incorporate capabilities to ensure safe and effective rotor wing aircraft operations for our Soldiers.

The Cargo Helicopter office continues to support our partner nations with heavy lift capabilities around the world. The Chinook Block I has a stable production forecast into the near future, mainly in support of our foreign partners including the Netherlands, Saudi Arabia, and Spain with current FMS contract actions supporting aircraft production and deliveries thru 2024.

Modernization

The Cargo Helicopter Modernization team achieved numerous major milestones for the CH-47F Block II program. Since the first fully configured test flight of the initial Block II prototype aircraft on November 7, 2019, the fleet of three prototype aircraft have amassed more than 360 flight hours. The experimental test flights being conducted in Mesa, Arizona and Redstone Army Airfield, Alabama are testing the Block II's drivetrain, rotor, electrical, and

fuel systems sub-system enhancements. Additionally, the flight test program is demonstrating new critical technologies through the introduction of *Advanced Chinook Rotor Blades (ACRB)* and improved drive shafts.

Despite the pandemic restrictions, the Block II program has maintained momentum and completed several significant flight test milestones. In June 2020, one of the EMD aircraft completed high-altitude tethered hover testing in Gunnison, Colorado. At an elevation of over 7,600-foot pressure altitude (PA), the aircraft was tethered to the ground at both in-ground effect and out-of-ground effect hover heights to safely and efficiently gather a broad range of engineering flight test data. Based on the data collected, analysis predicts that the Block II aircraft will have an increase in lifting capacity of more than 1,400lbs greater than the currently fielded CH-47F at 4,000ft PA, 95 degrees F.

The Block II program also completed numerous EMD ground test events at both Naval Air Station, Patuxent River, Maryland, and Redstone Arsenal. One aircraft completed all the required electromagnetic test events required for qualification. At Aberdeen Proving

Ground, Maryland, the Army Test and Evaluation Command conducted ballistic and live fire test assessments on the Block II's redesigned fuel cell, transmission synchronization shafts, vertical transmission shafts, pitch change links, as well as the initial damage characterization of the ACRB. In the cyber realm, the program successfully completed its Cooperative Vulnerability Identification assessment and is preparing for its Cooperative Vulnerability Penetration assessment. Finally, Boeing has conducted numerous sub-system and component test events on the ACRB, drive and rotor systems at their Ridley Park, Pennsylvania facility.

The Cargo Helicopter Project Office remains focused on delivering this critical heavy lift capability to the combatant commanders around the world. Through targeted modernization efforts, the program continues to advance the safe and effective operations of the current aircraft and inform how best to meet this objective well into the future.

COL Al Niles, Jr. is the Project Manager for the Cargo Helicopter Project Office, Program Executive Office for Aviation, Redstone Arsenal, AL.

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The Multi-National Aviation Special Project Office Improving the Warfighting Capacity of our Nation's Allies and Enhancing the U.S. Army's Multi-Domain Operations Worldwide

By COL Tim McDonald, Dr. Wayne Hudry, and Mr. Andy Greer

In 2020, the Multi-National Aviation Special Project Office (MASPO) continued to equip, modernize, and empower partner nations with Non-Program of Record (NPOR) rotary wing aircraft capabilities in support of Program Executive Office (PEO) Aviation's objective of delivering aviation capability to our worldwide allies. These efforts remain congruent with U.S. Security Force Assistance strategies that increase interoperability and capacity of our partner nations.

Mission

Our mission set includes providing total package sustainment and support on an international scale. MASPO sets the standard for NPOR aircraft sustainment, maintenance, modifications, overhauls, full life-cycle systems management, and assures the enhanced safety and airworthiness of multiple aircraft Mission Design Series (MDS) for our allies. The Project Office provides aviation support to the combatant commands, Other Governmental Agencies and Foreign Military Sales (FMS) partners by enabling them with aviation capabilities. We have expanded our aircraft portfolio to meet the evolving requirements of our partner nations. It now includes the AH-6, UH-1, AW-

139, Bell 407, Bell 412, AH-1 Cobra, OH-58 A/C/D, AW-119, PC-12, Mi-17, MD-530F and will soon include the UH-60A (Afghan Hawks) MDS from PEO Aviation's Utility Helicopter Project Office. Due to increasing partner nation demand for rotary wing capabilities, MASPO's global portfolio now numbers nearly 400 aircraft as part of FMS programs.

Strategic Vision

Our strategic vision is to be the conduit for linking aircraft sustainment capabilities with the needs of our international partners to ensure their aviation fleets remain viable and capable. We leverage our experience in repair and overhaul of non-standard aviation assets to identify sustainment facilities, capabilities, and partners that provide long-term support across the globe. We identify capabilities that provide repair for aircraft damaged due to hard landings, battle damage, and extended airframe usage. Our office always welcomes discussions with all worldwide sustainment providers who specialize in rotorcraft heavy repair and overhaul.

During FY20, we initiated a comprehensive sustainment program to improve supply support for our worldwide

The Multi-National Aviation Special Project Office continues to increase its global impact as the juggernaut for the Department of Defense and the Army in providing affordable Non-Program of Record rotary wing aircraft and sustainment around the world.

customers. We began a phased approach that includes a streamlined process to competitively contract for aviation spares from the commercial market. The next phases include implementing basic ordering agreements (BOA) with other industry partners and awarding a third party logistics (3PL) contract. The BOA instruments broaden the sustainment base for aircraft systems operated by our international partners with a pool of vendors for the procurement of aviation spare parts and materials from the commercial market. The incorporation of all phases will provide a profound positive impact on international aircraft sustainment.

In keeping with the tenets of Total Package Fielding and support, we initiated an effort to ensure engineering aspects related to NPOR aircraft are fully identified, addressed and resolved. For example, our engineers, collaborating with the Systems Requirements Directorate and MD Helicopters Inc., are performing a flight load survey on the

MD-530F to eliminate long-term residual risk. These types of holistic efforts help ensure safe and effective aircraft operations for our partner nations.

In an example of providing a systems approach to our strategic vision, our engineers are developing, testing, and qualifying state-of-the-art aircraft modifications such as on-board imaging sensors and the Advance Precision Kill Weapons System (APKWS) capability for Lebanese Air Force (LAF) aircraft. The APKWS enables stand-off, precision guided engagements which minimizes collateral damage and wasted ordnance. In September 2020, MASPO provided LAF students with initial aircraft training, aerial gunnery training, and maintenance training. These measures enhance the aviation warfighting capabilities of the LAF. Similarly, overhaul support efforts for Afghanistan resulted in positive impacts on their equipment and their ability to conduct successful missions.

Another focus of our strategic vision is always looking for ways to improve and support our customers with excellent tools and analysis. We continue to analyze our ability to provide cost effective and affordable aviation capabilities that meet combatant commanders' priorities.

Recognition

Recently, our analysis gained national attention when in September 2020, HQDA G8 announced MASPO as the competitive winner of the U.S. Army Operational Analysis Award. The competition was between Army analysts, technicians, and scientists and focused on analytical efforts in support of operational commanders. While the judging examined the innovative approach, analytical methodology and scientific principles, emphasis was placed on military relevance. MASPO, as an acquisition organization, competed through multiple rounds against analytical organizations to win the award and coined the phrase 'Operational Acquisition' based on benefits the analysis provided to combatant commanders.

This MASPO analysis addressed providing sufficient rotorcraft capabilities and capacity to support U.S. personnel in combat through 2025. Taking a predictive analytic approach, we generated a model that determined the operational requirements based on aircraft life, operating hours and attrition rates. We incorporated potential combat losses of aircraft and overhaul returns resulting in identification of potential

operational aviation gaps by year. The identification of these potential gaps provides combatant commanders decision space to prioritize aircraft funding, procurement, and repair.

Our team's passion is delivering aviation capability to our world-wide allies by resolving the complex fielding, safety, sustainment, airworthiness and training issues they face in operating NPOR rotary wing aircraft. The need for rotary wing capability is essential to ensure our partners have the capacity to conduct counterterrorism, counterinsurgency, stability and military operations in furtherance of host nation and U.S. national security objectives. We are confident that our efforts have improved the war fighting capabilities of our nation's allies and improved relations with each country resulting in the U.S. Army's improved ability to execute Multi-Domain Operations world-wide.

COL Tim McDonald is the project manager, Dr. Wayne Hudry, the deputy project manager, and Andy Greer, an operations officer within the Multi-National Aviation Special Project Office. They are all assigned to Program Executive Office, Aviation at Redstone Arsenal, AL.

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Utility Helicopters Project Office Update

By COL Calvin Lane



The Utility Helicopters Project Office (UHPO) continues to make great strides with providing the U.S. Army and our strategic stakeholders with the world's best utility helicopters. We manage the enduring fleet's Black Hawk, Lakota, and Medical Evacuation (MEDEVAC) aircraft and design, develop, deliver, and support associated products and services. In support of the Program Executive Office, (PEO) Aviation objectives, our focus is on providing our user community with a world-class enduring Aviation capability that is ready and relevant for operations today and in the future.

As the PM, I get the privilege of leading the team whose goal is to continue advancing the UHPO programs forward to be operational and successful on the ever-changing Multi-Domain Operations (MDO) battlefield. This is accomplished by determining and validating new, modernized system capabilities for the enduring fleet, complementing the Future Vertical Lift platforms' development and extending those capabilities to our partner nations. This article covers six of the UHPO lines of effort, briefly highlighting their initiatives and efforts.

To support the modernization of the enduring fleet, the **H-60M Product Office** is developing new Flight Management System software that provides Integrated Area Navigation ca-

pability for the H-60 Black Hawk with fielding scheduled for FY23. We are working to update and sustain existing mission software to provide aircrews with better networked capabilities and Multi-Function Displays. Deviating from hardware-centric systems to software-centric systems will increase interoperability and provide the ability to add, upgrade, and swap components within a system. We are developing simulators that closely imitate the configuration and performance of actual aircraft. Another key modernization effort for the Black Hawk is integration of the Improved Turbine Engine, which is slated to replace the GE T700 series engine also starting in FY23. By integrating new system-of-systems capabilities on the H-60, we ensure that the readiness and relevance of the utility platform in the Army Aviation portfolio remains available to "fight tonight" for our combatant commanders.

Part of our modernization strategy is to "develop once, leverage across the portfolio." We utilized this approach when developing the **UH-60V** digital avionics suite upgrade. The UH-60V program successfully developed and integrated a new digital cockpit into the UH-60L platform resulting in a "UH-60M like" aircraft in functionality and capability. The program entered the Limited Rate Initial Production phase in Decem-

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ber of 2018. The first production UH-60V left the production line at the Corpus Christi Army Depot and completed its first flight in September 2020. This is the first of 760 programmed aircraft that will continue production through 2039.

To be consistent with the tenets of future platform architectures, during the Research, Development, Test, and Evaluation phase, the UH-60V office successfully established an open system software architecture to enable efficient integration of future technology, upgrades, and integration of component alternatives. The UHPO intends to partner with Combat Capabilities Development Command on Redstone Arsenal to maintain these products locally. This co-location with the UHPO reduces both cost and time required to facilitate rapid qualifications and integration efforts in developing new systems. Government ownership of these tools will allow them to be utilized for the Future Vertical Lift Architecture Framework and support PEO Aviation's Modular Open Systems Approach initiative.

In October 2020, the Army Requirements Oversight Council approved a MEDEVAC requirement in association with the Future Long-Range Assault Aircraft (FLRAA) Abbreviated Capabilities Development Document (A-CDD). In anticipation of this emerging requirement, PEO Aviation expanded the charter of the *MEDEVAC Product Office* to include the support of PM FLRAA. This provided a unique opportunity to expand the capacity of the MEDEVAC Office and leverage the knowledge and experience for the Army's future utility helicopter platform. With years of experience working on medical variants of Black Hawk, this team will provide expertise and capabilities to lead and innovate in the design of the future FLRAA medical interior.

The *UH-72A*, "Lakota," is a commercial/non-developmental item aircraft that is certified by the Federal Aviation Administration. This aircraft is consistent in its operational readiness and relevancy as part of the enduring Aviation fleet. The UH-72A operates worldwide in permissive environments to accomplish a myriad of missions and serves as the primary training aircraft at the Army Aviation School at Ft. Rucker, AL, for the Initial Entry Rotary Wing/

Basic Warfighting Skills Training. Additionally, the Lakota supports the Title 32 mission of the Army National Guard.

The Utility Helicopters Project Office not only provides capabilities to our U.S. forces, but also to key partner nations around the world. The *UHPO International Programs Office* continues to maintain outstanding support to our Foreign Military Sales customers while providing world-class capabilities to all our partner nations in support of MDO. On October 7, the final shipment of UH-60M aircraft arrived in Taiwan. This completed the delivery of 60 UH-60M aircraft to the Taiwanese Army and the Taiwanese National Airborne Service Corps. The program was implemented in November 2010 and is currently transitioning into the sustainment phase. In conjunction with the UH-72 Product Office and Airbus, the International Programs Office is providing price and availability for a foreign nation's potential purchase of the Lakota.

In support of our *Other Government Agencies mission*, the delivery and unique modification of two HH-60L aircraft was completed under the Customs and Border Protection's (CBP) HH-60L Conversion Program. This program incorporates more than 26 unique mission upgrades for CBP to execute its U.S. Border Mission and will deliver a total of 15 aircraft. In support of the U.S. Department of State (DOS), External Programs delivered three uniquely modified HH-60L Helicopters that are currently deployed to support a priority DOS OCONUS mission. UHPO's UH-60 Mission in Afghanistan continues with the recent delivering of five Afghan unique configuration UH-60As to theater and providing maintenance, logistics, and mentorship to the Afghan aircrews and maintenance teams.

Our Utility Project Office is focused on all these lines of effort and remains committed to ensuring that combatant commanders and Soldiers have the utility Aviation capabilities available to them to fight and win against our adversaries and support our allies.

COL Calvin J. Lane is the Utility Helicopters Project Manager, Program Executive Office for Aviation at Redstone Arsenal, AL.

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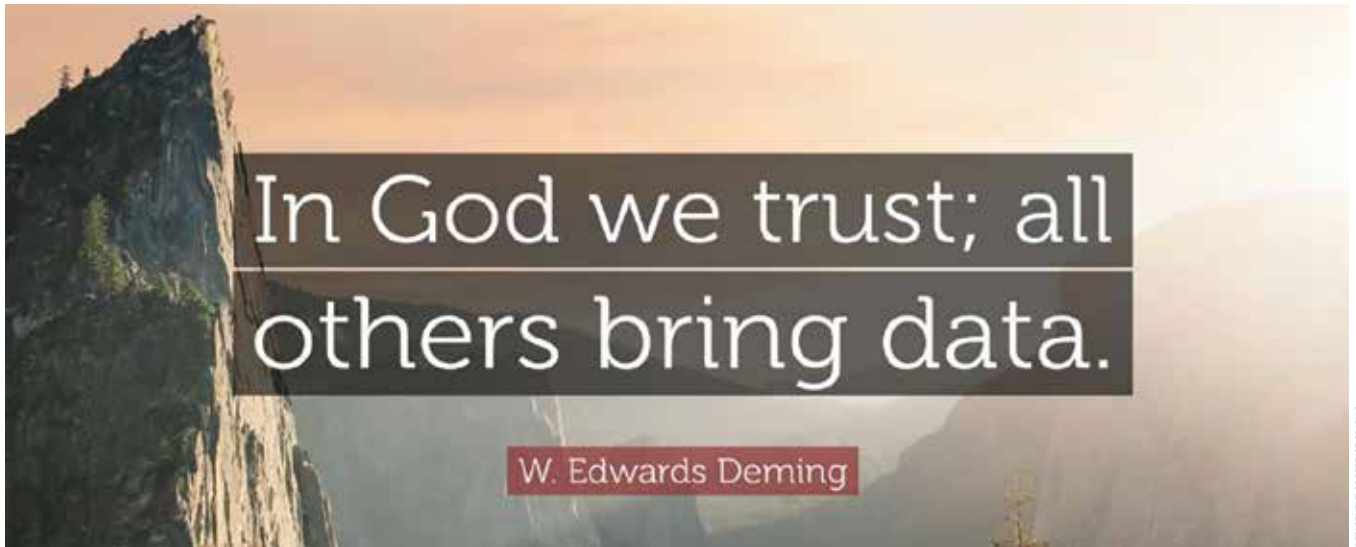
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Data Driven By COL Gregory Fortier



I vividly recall the first time I read the quote above as I raced through the Pentagon in search of the Navy hallway that housed the United States Naval Test Pilot School (USNTPS) annual budget review. Having spent most of 2012 as the USNTPS Executive Officer in the Naval Air Warfare Center Aircraft Division, I had gotten used to being comfortable as the only Army officer in rooms filled with Navy and Marine Corps aviators. On that uncomfortable day, I am thankful I was able to pause, albeit for a moment and notice that unfamiliar sign hanging outside an E ring office.

Undoubtedly, the past year for PM FARA has been filled with spirited and passionate discussions. Working through the challenges reaffirmed the notion that convincing positions are best generated by accurate data, immense preparation, and quality analyses. In the end, capability is only delivered when we understand what the data are telling us. I believe that is why the Honorable Frank Kendall (then Under Secretary of Defense for Acquisition, Technology, and Logistics), hung that sign outside his office.

Oversized Binders

Since July 2019, Future Attack Reconnaissance Aircraft Project Office (PM FARA) has worked tirelessly to support Program Executive Office, Aviation's three objectives; 1) Build the Future Vertical Lift Ecosystem (FARA, FLRAA, FUAS and MOSA), 2) Ensure the Readiness and Relevance of the Enduring Aviation Fleet, and 3) Build Partner Nation Capacity. We are immensely thankful for the opportunity to work side by side with each of the PEO Project Offices and our teammates at the Future Vertical Lift Cross Functional Team to meet those objectives. To my brothers in FLRAA, AMSA, UAS, Utility, Cargo, Apache, ATE, MASPO, FW and the CFT, I appreciate every conversation, meeting, and email. The collabora-

tion has been remarkable as we all pivot from the traditional ways of doing business. Many thanks to the PEO International team for their preparatory work in setting the conditions for total program success with our coalition partners.

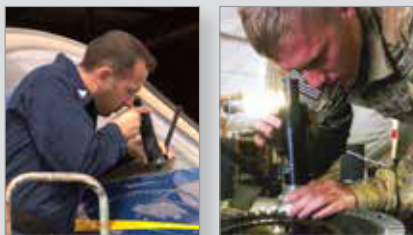
We place immense value in having a seat at the various "virtual tables" across the Army Aviation Enterprise. While this article is not large enough to capture the many collective accomplishments this year, I want to specifically acknowledge the strength of the Army Aviation Council of Colonels as we drive toward collective solutions. I would be remiss if I did not extend a special thanks to the FARA-Competitive Prototype team for allowing us to participate in their design reviews through the lens of affordability, producibility, reliability, and survivability. The candor of the entire industry-government enterprise generated an unprecedented amount of knowledge at this early stage in the program's lifecycle. Rest assured, we are building multiple oversized binders as we design, develop, and deliver this capability to Army Aviation.

Data Gathering In 2021

We are thankful for the opportunities we've been given and look forward to building on this knowledge base as we navigate the myriad of challenges in developing a weapon system. We charge into 2021 with an informed mind, a sharpened focus, and a plan to gather the next layer of data required to set the proper conditions for delivery of this critical capability. We will focus our 2021 data gathering efforts on the following five areas:

Weapons System Design. The air vehicle prototype design iterations conducted by the FARA-CP team have informed the requirements document, outlined the technical performance scorecard and defined the required weapons system design space. We are excited to continue that work with both

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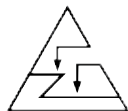
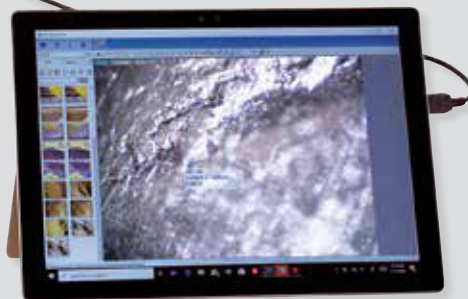
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vendors in designing, developing and delivering a sustainable FARA Weapons System that will fight and win on the Multi-Domain Operations (MDO) battlefields.

Technical Readiness. While we will not delay development waiting for a premier solution incongruent with the MDO-capable timelines, we know that proper balance of enduring fleet lessons, high Technical Readiness Level (TRL) items, and innovative solutions to this complex problem will win the day. We continue to balance innovation with the required pace and encourage industry to view our problem set through the bi-focal lens of short-term, high TRL and longer-term, lower TRL for future upgrades. We are building the “A” model FARA today.

Airworthiness. It bears mentioning the great work already accomplished by the airworthiness and test organizations within the qualification enterprise. We sincerely appreciate the frequency of the free-flowing exchange of data to identify challenges early. We are turning over every stone to ensure that we fully understand the deltas between the safety of flight airworthiness for the prototypes and the full airworthiness qualification required for a combat capable machine.

Mission Systems Integration. Industry mission systems providers are rightly interested in whether PM-FARA will use a mission systems integrator. As we press through 2021, I can tell you that we continue to integrate our research and learning into our strategies moving toward the release of our draft request for weapons system design proposals. The only certainty today is that our mission systems digital backbone will be compliant with the FVL Open Systems Architecture Framework.

Affordability. Because all resources are finite, we spend each day viewing every decision through the lens of affordability. Our industry partners are keenly aware of the budgetary constraints under which we operate and must help us navigate the fiscal waters. Unaffordable capability is incapable.

“An Expert Team”

“With too little data, you won’t be able to make any conclusions that you trust. With loads of data, you will find relationships that aren’t real.” Douglas Merrill

After my time in the N98 conference room that day concluded, I made a special trip past Mr. Kendall’s office to snap a picture of the Deming sign so that I could show it to my students at USNTPS. I felt it was the best way to illustrate “why” the challenging curriculum placed such a premium on learning the art and science of gathering and transforming data into information while additionally understanding where “perfect” threatens “good enough.”

The only thing more challenging than discerning value-added data from a sea of information is participating in the melding process between multiple “teams of experts” into an “expert team.” The Army Aviation enterprise can trust that PM-FARA is relentlessly preparing to precisely discharge its duties in support of the greater “expert team” to provide this critical capability to the next generation of Army Aviation warfighters.

We are not here to try hard. We exist to deliver.

COL Gregory Fortier is the project manager for Future Attack Reconnaissance Aircraft at Redstone Arsenal AL.



FLRAA PM Blazes a Path Towards FUE in FY30

By COL David C. Phillips

Modernizing Army Aviation is of monumental importance to our Nation's defense, and we have a great opportunity for the Army and industry to get it right. The window in time is now, and with innovative acquisition approaches, empowered professionals, and a set of optimized requirements, the Army has a once-in-a-generation opportunity to design, develop, and deliver Future Vertical Lift aircraft that are able to operate at far greater speeds and ranges to support our Soldiers in 2030 and beyond.

For the Future Long Range Assault Aircraft (FLRAA), we are extremely fortunate to have one of the strongest teams possible to carry out this mission, and I am humbled to be a member of this team. In 2020, the FLRAA team of teams delivered on its commitments through some of the toughest challenges we have ever faced as a nation. Even with the pandemic, the FLRAA team met and overcame these challenges with unparalleled determination and perseverance, laying the requirements and acquisition foundation for the next generation of affordable, vertical lift, tactical assault aircraft to deliver a first unit equipped (FUE) in 2030.

Leading PM FLRAA, I continue to be impressed and appreciative of the teamwork, critical thinking, and innovative approaches both inside the Program Executive Office, Aviation (PEO Aviation) and across the Army Aviation Enterprise. Using acquisition reform authorities, combined with digital engineering and design, the FLRAA team is using rigorous model based systems engineering with industry to significantly reduce program risks, reduce lifecycle cost, and increase weapons system performance.

Competitive Demonstration and Risk Reduction

In 2020, the FLRAA team constructed and executed a new process. This CD&RR focuses on transitioning from science and technology demonstrators to field-able weapons systems, crossing the proverbial acquisition valley of death, through design and requirements optimization. Essentially, we have brought industry onboard early to help optimize our requirements while advancing the weapons systems designs through digital engineering.

After the Army Acquisition Executive signed our Acquisition Decision Memorandum in March 2020 to continue with current risk reduction activities, the PM team worked hand-in-hand with the Future Vertical Lift Cross Functional Team, the Capability Development Integration Directorate, the Aviation Platforms Requirements Determination Directorate AP-RDD, Aviation and Missile Command, the ATEC Army Test and Evaluation Center, and our industry partners. The CD&RR Phase I allowed

the Army to take additional bites at the requirements apple early, optimizing digital designs and requirements to balance performance with lifecycle affordability. Early industry feedback has been critical to inform the Army's final requirements. Based on the success of CD&RR Phase I (executing through March 2021), PM FLRAA is already initiating actions for Phase II.

PM FLRAA is on track to award Phase II CD&RR through the Aviation and Missile Technology Consortium Other Transaction Authority Agreements in March 2021. The Phase II competitive agreements will result in updated digital designs and requirements to the subsystem and allocated baseline level. Executing CD&RR through the spring of 2022, while requesting industry proposals for the Program of Record in 2021, will lay a strong foundation for a competitive Federal Acquisition Regulation based contract award to a single vendor in 2022.

In preparation for the contract award using the DoD's adaptive acquisition framework, CD&RR will accelerate design work with designs to the subsystem level, and mitigate industrial base workforce risk while maintaining competition. Through CD&RR, Army leaders have had the ability to make early, informed decisions ensuring FLRAA capabilities are not only affordable, but that they meet Multi-Domain Operations (MDO) requirements while delivering on an aggressive schedule that does not sacrifice rigor for speed. These deliberate steps optimize risk reduction and design activities, seamlessly transitioning through the digital thread through each phase, and initiating prototype builds without losing momentum, setting the course for the first Army unit to receive these new aircraft by 2030.

The Army also continues to work with partners and allies. The Army Special Operations Aviation Command has already started to invest in conceptual design work to address their requirements, MEDEVAC design requirements are under consideration, and the Army has received letters of interest from several allied partners. FLRAA is committed to working with partners and allies early, and also working with Deputy Assistant Secretary of the Army for Defense Exports and Cooperation DASA-DEC to synchronize our efforts and keep those communication lines open.

FLRAA has applied rigor to its acquisition approach, baking decades of lessons learned into the FLRAA final requirements to ensure affordability, driving down both procurement and operating and support costs of the aircraft. Continued dialogue and synchronization among all of our stakeholders, including industry has been a critical factor for continued support from Army senior leaders and stakeholders in both OSD and Congress.

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MOSA

Also crucial to the success of FLRAA's objectives is the deliberate integration of a Modular Open Systems Approach (MOSA) into our requirements, acquisition, and sustainment strategy.

A foundational element for all Army Aviation efforts, MOSA allows the accelerated integration of capabilities, including network, sensor, and survivability systems into the platform and provides the Army with an air vehicle and mission systems digital backbone capable of facilitating air-to-air and air-to-ground convergence and rapid adaptation to evolving threats.

FLRAA's MOSA efforts are nested within PEO Aviation's MOSA transformation effort. We have taken deliberate steps to ensure that we have the right technical, acquisition, and requirements structure for industry partners to come to the table early with innovative ideas. Alongside FARA and with PEO Aviation support, we built the Architecture Collaboration Working Group (ACWG), a forum that brings government, industry, and academia to the table to achieve MOSA objectives together. Today, ACWG membership is almost 700-strong and continues to grow – a positive indication of industry's understanding and commitment in supporting our Soldiers. With the ACWG, we are building on the body of knowledge from several previous science and technology efforts, leading to standards that will define the FVL architecture framework. Today, we all own a stake in MOSA, and to be successful we must fundamentally integrate MOSA into our technical, requirements, and

acquisition approach in order to set the course to make the best acquisition decisions for each increment of FLRAA capability.

FLRAA continues to deliver on its commitments: executing CD&RR and the ACWG; continuing Joint Multi-Role technology demonstrator flight tests; executing conducting Soldier touchpoints; and five official Requests for Information with two Industry Days to date. Most recently, Army Contracting Command and PM FLRAA have received valuable industry feedback from the Draft Request for Proposal released in December and this feedback has allowed us to continue addressing the program risks that industry has identified.

Developing a fleet of transformational aircraft to augment the venerable UH-60 Black Hawk helicopter starts with people. For FLRAA, we are extremely fortunate to have the right people on the field – an elite team with the right culture, climate, and ethical foundation that leads and works with all of our stakeholders. Our team is both optimistic and enthusiastic about this generational opportunity to build a world class tactical assault aircraft that is capable of winning in Multi-Domain Operations from 2030 and beyond.

Next generation Army Aviation capabilities require a new paradigm and a team effort. We will succeed.

COL David C. Phillips is the project manager for the Future Long-Range Assault Aircraft, Program Executive Office Aviation at Redstone Arsenal, AL.



Army Capability Manager-Lift Update

By COL Barton (Bart) Johnke, MAJ Justin Goldman and Mr. Bill Jones

The Army Capability Manager-Lift directorate is dedicated to serving the warfighter and maintaining the requirements and capabilities of 80 percent of the Army's Aviation enduring fleet. Our team of professional active duty, government employees and contractors manage more than 3,500 aircraft. Guided by the ACM-Lift charter and branch priorities, our daily battle rhythm focuses on representing the voice of the user to support the Air Assault and Air Movement fundamental capabilities required to operate in a complex environment. Incorporating stakeholder input with materiel developer programs and Army resourcing decisions help achieve balance with the capabilities required for the lift fleet. This gives the warfighter ready and modernized Aviation systems to fight and win our nation's wars.

UH-60V Program is the Army cost savings material solution to bridge the gap by digitalization of the UH-60L fleet to operate more seamlessly with the UH-60M. Furthermore, this program is a key testbed for open system architecture. The end state is to reduce both integration times for software updates and upgrade costs of future programs. It brings a digital cockpit to the aging 60L to also enter the networked battlefield. The Initial Operating Test (IOT) led by 16th CAB

in September of 2019 proved that the 60V will be an effective solution to overcome the obsolescence of analog systems in the UH-60L fleet.

UH-60M is approaching multi-year ten, the last phase of UH and HH-60M fieldings before entering sustainment phase in FY27. Even as we approach the end of procurement, the UH-60M fleet will receive targeted modernization and upgrades to ensure it remains highly relevant on the digital battlefield. The aircraft will continue to be a workhorse for many years with numerous upgrades and programs that include: RNAV, Degraded Visual Environment Pilotage System (DVEPS), Common Mission Server (CMS), one-piece Lightweight Composite Stabilator (LWCS), Upturned Exhaust System II (UES II), and Jamming-Common Infrared Countermeasures (J-CIRCM).

ITEP T901 is a multi-platform engine upgrade slated for the UH-60M. It restores combat configured and external load capability for high/hot/heavy conditions. Final engine design is near completion and production plans are underway. This program supports the reach attribute (reach, survivability, lethality, sustainment, affordability) in a demanding operating environment. The biggest change Black Hawk pilots will see is the FADEC controlled engine and

removal of the "lockout" function. Other major improvements are the integration of a training mode that simulates high/hot/heavy conditions and single engine conditions at the home station for superior training.

CH-47F Block II Program is a grouping of operational performance enhancements that brings commonality to both the conventional and special operations CH-47 fleet. The Block II program addresses warfighter needs by increasing heavy lift capability while reducing operational and support costs. The Block II program increases commonality with the Special Operations Aviation MH-47G, addressing 17 of the top 25 operational and support cost drivers, as well as building in increased capability to fight today's war more effectively and prepare Army Aviation for the future fight.

Fixed Wing remains dedicated to providing commanders intra-theater movement of time sensitive key personnel and equipment. Recently, Operational Support Airlift (OSA) aircraft have provided support to key personnel during the COVID-19 pandemic, providing leaders travel flexibility. Selective modernization efforts, including glass cockpit upgrades for the C-12 U-V and communication upgrades will ensure the fleet remains ready to provide support to commanders world-wide.

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ACM LIFT GRAPHIC

Special Electronic Mission Aircraft (SEMA) plans to support the current and future fight through efforts such as the High Accuracy Detection and Exploitation System (HADES). HADES will provide multiple sensing capabilities to the warfighter. SEMA is also beginning to divest the aging Airborne Reconnaissance Low (DHC-7) aircraft, replacing it with a modified DHC-8-315, designated RO-6A, Airborne Reconnaissance Low – Enhanced (ARL-E) that will be completed in FY25. Modernization efforts for Enhanced Medium Altitude Reconnaissance Surveillance System (EMARSS) will increase performance capabilities and aircraft safety.

UH-72 Lakota program recently fielded the last UH-72A to Fort Rucker. A new UH-72B version of the Lakota has significant improvements such as four axis auto-pilot, a fenestron tail rotor, and improved drivetrain to increase the 5-minute powertrain takeoff power limit to 30 minutes. Several UH-72Bs are on contract to field to the National Guard. We are working with the Product Manager for Lakota on a cascade plan to transfer the UH-72As to the training base post UH-72B fielding. Upgrades to the legacy Lakota fleet include multi-COMPO efforts that support several different Mission Equipment Packages (MEP)s such as the security and surveillance, MEDEVAC, and General Support missions that the Army National Guard requires in support of title 10 and title 32 authorities. The program focus is to ensure the training base has the requirements they need to conduct FSXXI and the Army National Guard have the best MEP for each state's mission sets.

ACM-Lift's core mission is premier support to ground warfighters and the aviators that get them where they need to go by ensuring Army Aviation has the finest lift assets. We are committed to synchronizing lift capabilities for the Total Army, across all domains to ensure the warfighter has sustainable, reliable, and capable platforms to fight and win our nation's wars.

COL Barton (Bart) Johnke, is the director, MAJ Justin Goldman and Mr. Bill Jones are the deputies for the Army Capability Manager for Lift (ACM-Lift) at Redstone Arsenal, AL.

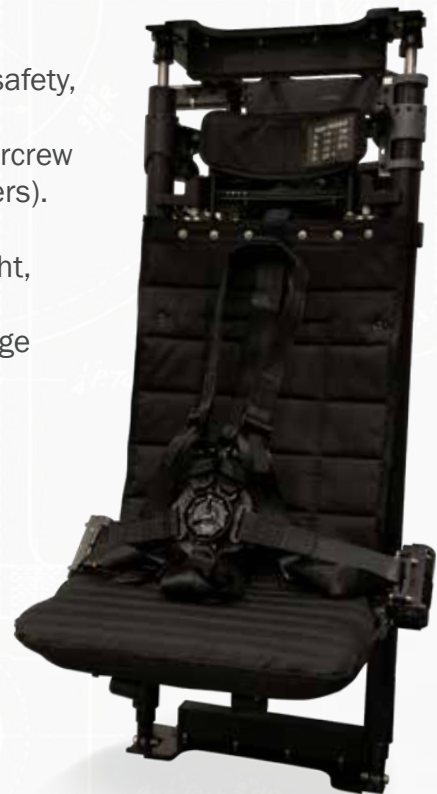


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Manned/Unmanned Teaming (MUM-T) Improvements Enhance Networked Operations in Complex Battlespace

By MAJ Steve Cusack and Mr. Tim Healy

Manned/Unmanned Teaming (MUM-T) between the AH-64 Apache and MQ-1 Gray Eagle remain the Army's primary aerial platforms supporting ground maneuver. Surveys of FORSCOM units affirm that MUM-T remains an effective way to increase combat capability, share information, and extend operational reach. The objective is to reduce time and aircrew workload for more effective MUM-T employment in dynamic and complex large scale combat operations. This article is an update on the continuing partnership among materiel developers, industry, and operators to increase MUM-T capabilities.

Reconnaissance Team (MQ-1C Gray Eagle UAS)

There are two methods to task unmanned aircraft for a MUM-T operation: preplanned and dynamic re-tasking. Ideal MUM-T operations are preplanned where task and purpose, connectivity requirements, and other coordination occurs in pre-mission planning. When a tactical situation changes or there is no pre-mission relationship, MUM-T operators can adapt to the changes and utilize the effects of networked systems through dynamic re-tasking. Dynamic re-tasking is more complex and requires system connections that are intuitive across the various current and potential users. Dynamic re-tasking is the "design-to" standard as we continue to improve fielded MUM-T capabilities.

Operational View, Gray Eagle MUM-T Operations

Figure 1 illustrates the operational view of an armed Gray Eagle, AH-64E, and One System Remote Video Terminal (OSRVT) conducting MUM-T. From this base configuration operators can share



The ACM-RA Attack team evaluated crew responses to mission scenarios, evaluating multiple versions of interface options to reduce MUM-T workload.

complex mission information, graphics and certain levels of system control.

MUM-T can be as simple as sharing video between aircraft operators or a ground-based OSRVT. As teams utilize more of the available MUM-T capability, AH-64 operators can control the UAS payload (level of interoperability (LOI) 3) while the UAS operator maintains full control of the unmanned system's flight and airspace management (LOI 5). In the most demanding profile, AH-64 operators could arrive on a battlefield, set up an ad hoc MUM-T

operation and control the payload and have control of aircraft navigation, altitude, and airspeed (LOI 4).

Attack

Project Manager Apache Helicopters (PM AH) is focused on the next iteration of Version 6 aircraft software, currently identified as Version 6.x. Among improvements, the Apache team is addressing MUM-T deficiencies that operators from 1-227 Attack Battalion identified when evaluating Version 6 software, specifically how pilots build

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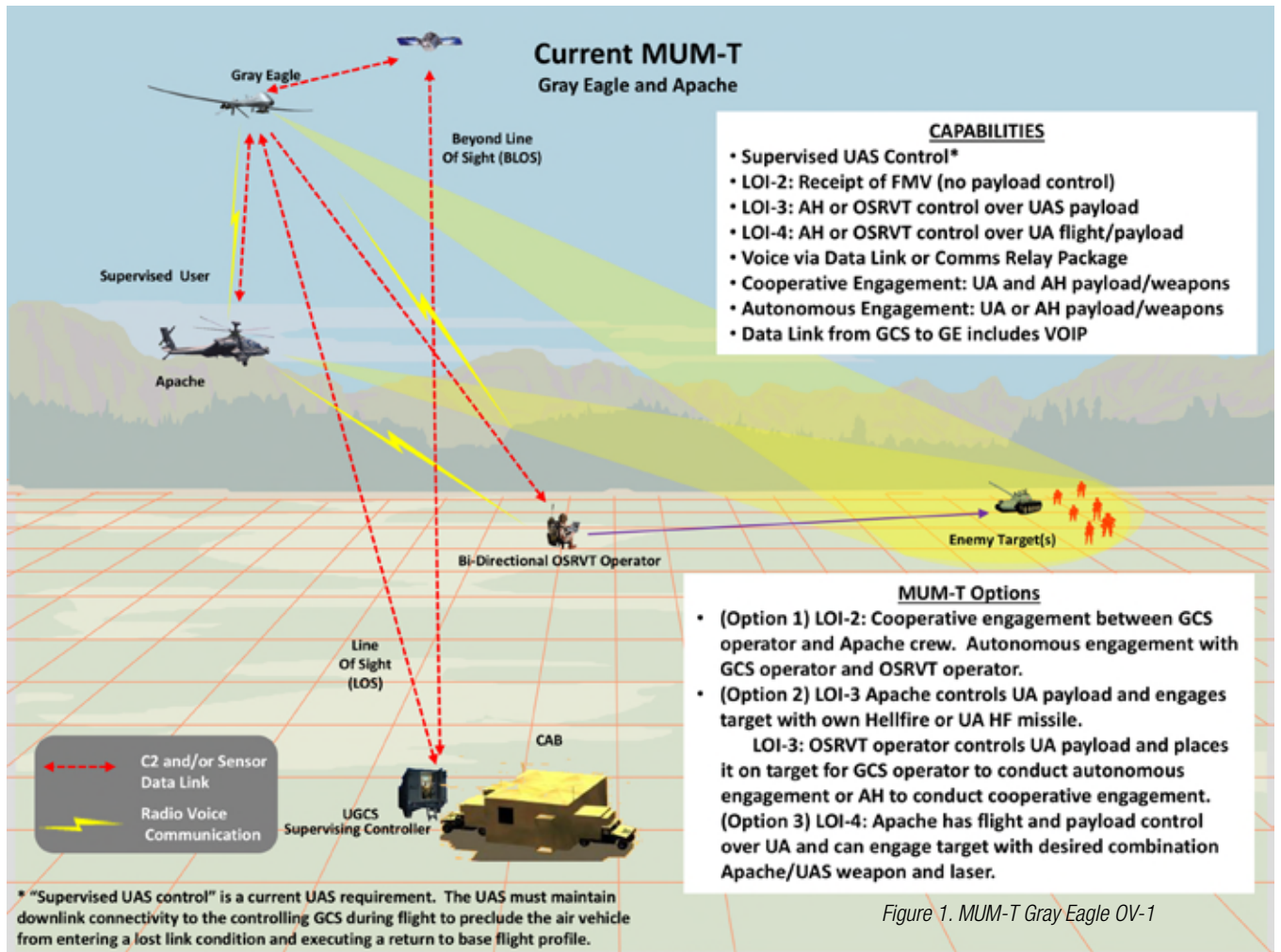


Figure 1. MUM-T Gray Eagle OV-1

U.S. ARMY GRAPHIC

networks and incorporate different airborne and ground-based team members. As the amount of information available and complexity of MUM-T operations increase, AH-64E crews face tradeoffs with how they manage communication systems and allocate communication hardware to increase situational awareness for all battlefield stakeholders. The goal is to improve the interface to increase speed, accuracy, and confidence when engaging targets.

The Army Capability Manager for Reconnaissance and Attack (ACM-RA) recently participated in an event to evaluate different interface options to fully utilize the communications package. ACM-RA and PM AH focused the team of engineers toward an interface that was more intuitive, while creating tactical vignettes to evaluate crew responses. The evaluation consisted of different combat scenarios, requiring crews to choose between different waveforms and antennae to meet tactical demands. Software developers

measured crew response time and effectiveness in their tasks. This feedback will be the basis for improvement efforts on how the aircraft presents MUM-T connection options to the crews.

Through operator reviews, industry partners will refine the system interface to ensure that crews are able to utilize networked assets in the most demanding MUM-T mode – dynamic re-tasking. Operators provide valuable feedback to these modernization efforts, and we encourage operators to contact our team to be a part of the software development efforts and shape the future of MUM-T.

Train for Battlefield Success

As we consider feedback from units, we remain concerned with the frequency and quality of training for MUM-T. ACM-RA is actively pursuing policy changes, in coordination with other MUM-T stakeholders, to eliminate training obstacles at home stations to increase MUM-T proficiency. As

technology evolves and we advance aircrew levels of interoperability, the Army must provide sufficient institutional and field training capabilities. Units must standardize their collective training and incorporate unmanned systems, attack helicopters, and ground operators into training events. Easier said than done, but the Army cannot afford to arrive in contested battlefields with untrained operators or crews.

ACM-RA continues its close coordination with PMs Apache Helicopters, Unmanned Aircraft Systems, and Tactical Air Ground Munitions to develop lethal and survivable systems that contribute to current and future land combat operations. Please contact any of our team members if you have an operational concern or question.

MAJ Steve Cusack is the Attack Branch Chief and Mr. Tim Healy is a Gray Eagle UAS subject matter expert within the ACM-RA office located at Ft. Rucker, AL.



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Army Aviation Modernization

By COL Joshua P. Higgins

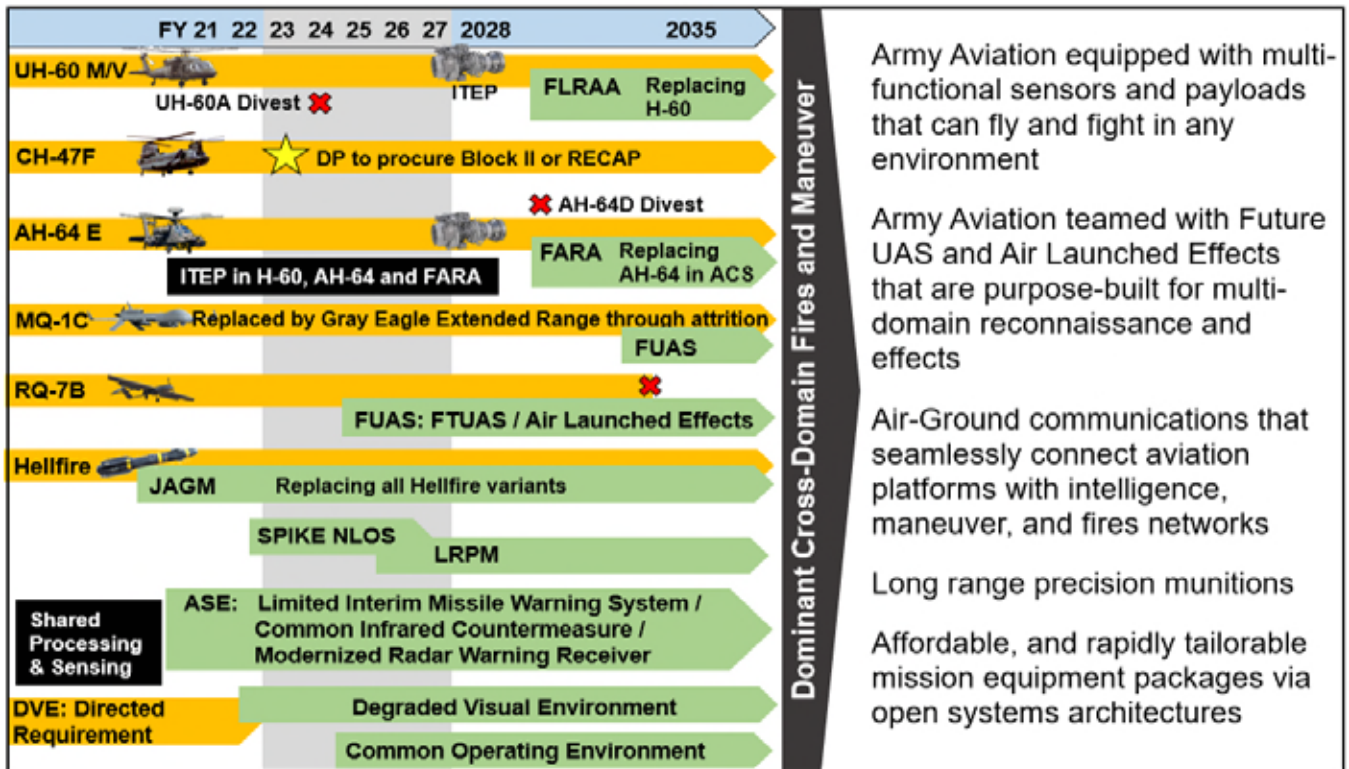


Figure 1. Army Aviation Modernization



Figure 2. Army Aviation 2021 DOTMLPF-P Integration Plan

2021 will once again be a very busy year for the Aviation Branch as we continue to execute aviation operations around the world, train our formations for large scale combat operations, modernize the force, and continue development of advanced future capabilities. Aviation Capability Development and Integration Directorate (CDID) is Army Aviation's synchronizing agent for force development and modernization. Our key tasks are experimentation, concept development, requirements development, and integration across the doctrine, organization, training, materiel, leader development, personnel, facilities and policy domains (DOTMLPF-P). We are the war-fighter's representative in the modernization process.

In this issue of AAAA magazine, the CDID will provide updates on the progress and activities across the branch modernization efforts. Our objective is to keep you informed of current and future force modernization efforts and prepare the force for integration of these advanced capabilities.

Modernization

Army aviation must field and integrate advanced capabilities that increase reach, survivability, and lethality to enable Army forces as an essential element of the joint force. The Army and the Aviation Branch are investing in multiple advanced technologies to ensure we are able to fight and win in large scale combat operations. Future Attack Reconnaissance Aircraft

(FARA), Future Long Range Assault Aircraft (FLRAA), advanced Future Tactical UAS (FTUAS), Air Launched Effects (ALE), and Long Range Precision Munition (LRPM) as well improvements to lethality, survivability, communications, and sustainment will ensure Army Aviation is decisive in land warfare well into the future. Figure 1 represents the modernization efforts of the primary aviation systems over time.

DOTMLPF-P

Army Aviation is also transforming across DOTMLPF-P. In the near future, we will publish the Army Aviation 2021 DOTMLPF-P Integration Plan. This comprehensive plan establishes the foundation for Army Aviation modernization efforts across the DOTMLPF-P domains. It drives synchronized and integrated actions to increase readiness, ensure Army aviation has well-trained and led Soldiers, and is organized effectively with modern aviation systems to fight and win in LSCO as part of the joint force. It is a living document that will be continually updated.

Army Aviation modernization is well-nested with the Army Modernization Strategy and sets the framework for how we fight, what we fight with, and who we are as a professional force. Successful execution of modernization requires a team effort and flexibility across the total force as changes occur over time. Aviation CDID is ready to support and provide assistance on this incredible journey.

Above the Best!

COL Joshua P. Higgins is the Director, Aviation Capability Development and Integration Directorate at Fort Rucker, AL.

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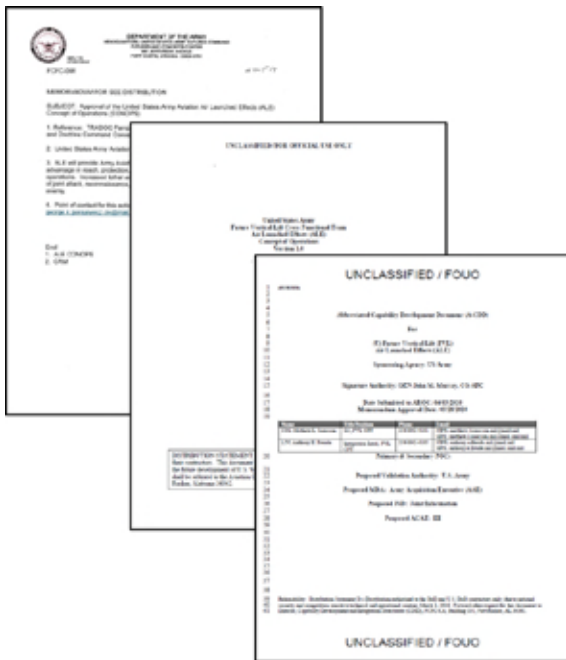
AP-RDD – New Organization with New Process for Developing Aviation Requirements

By COL Michael Johnson

Aviation Platforms Requirements Determination Directorate (AP-RDD) is a recently formed organization nested within the Aviation Combat Development and Integration Directorate (CDID). The mission of AP-RDD is to develop requirements and supporting documentation for future Army Aviation capabilities; a process that has seen recent change. Our key task, conducted in close coordination with the Future Vertical Lift (FVL) Cross-Functional Team (CFT), is to develop requirements documents for future manned aircraft, unmanned aircraft, air launched effects, and platform launched munitions. Additional tasks include working with the science and technology communities along with industry partners to support Aviation evaluations, experimentations, and studies to inform capability requirements. Recent structural changes and guidance within the Army are changing the way that AP-RDD executes its task of developing requirements.

The process for requirements documents typically follows a structured path; a path that is changing. First, AP-RDD analyzes gaps between the capabilities of the current Army Aviation fleet and future needs from several sources that are captured in a document called an Initial Capabilities Refinement Document (ICRD). Historically, these requirements were then refined into a Capabilities Development Document (CDD) that guided the development of the needed capability for the warfighter, thus initiating the program. Leveraging new tools from the Department of Defense and guidance from Army Futures Command, AP-RDD and the CFT are now developing and refining future requirements through abbreviated CDDs, competitive assessments, and Soldier feedback before finalizing those requirements into a CDD that formally initiates a program.

Beginning with the abbreviated-CDD (A-CDD), an internal Army document, APRDD and the CFT develop initial requirements for FVL systems that have increased reach, survivability, lethality, and sustainability. The A-CDD is then developed, refined, and staffed for approval by the Army Requirements Oversight Council (AROC). Throughout the process, the Directorate maintains constant communication with the various Project Management Offices to help ensure the operational integrity of the capabilities and requirements. Within the Aviation CDID, AP-RDD works in close concert with Aviation Enablers RDD and Army Capabilities Managers to inform development of the current Army Aviation fleet. The A-CDD, once approved, allows the Army to continue to develop and refine requirements, eventually resulting in a CDD, through competitive assessments and Soldier feedback.



Army Futures Command (AFC) was created in July of 2018 and leveraging the CFT began implementing changes in how requirements are developed. Shortly after AFC's creation, AP-RDD was formed from the TRADOC Capabilities Manager's Future Vertical Lift (TCM-FVL). The Directorate is composed of five divisions, each aligned with one of our key tasks: Future Long Range Assault Aircraft, Future Attack Reconnaissance Aircraft, Future Unmanned Aircraft Systems, Air Launched Effects, and Lethality. These structural changes shape and inform the changing requirements development process.



The four buy-try-inform aircraft will inform requirements.

ALL PHOTOS—U.S. ARMY AVIATION PROGRAM OFFICE PHOTO

The ongoing Future Tactical Unmanned Aircraft System (FTUAS) buy-try-inform assessment, the technology demonstrators for FLRAA, the ALE systems demonstrated at Project Convergence 20, and the FY22 Long Range Precision Munition shoot-off are all examples of these competitive assessments used to inform future requirements. These events allow industry to demonstrate both existing and developing system capabilities and demonstrate Army Aviation desired attributes like Modular Open System Architecture.

Soldier feedback both during and after these events inform requirements development. Active-duty Army test pilots and infantryman from the 82nd Airborne Division have provided feedback on the FLRAA technology demonstrators. Soldier feedback has also been used extensively throughout the FTUAS buy-try-inform assessment where systems were provided to five separate Brigade Combat Teams that each took their systems through a Combat Training Center rotation. The Joint Modernization Command provides in-stride reports with substantive Soldier feedback on the FTUAS systems. Aviation Platforms, ever mindful of capability gaps, uses A-CDDs, competitive assessments, and Soldier feedback to develop requirements that ultimately become future Army Aviation systems. APRDD's responsive history and requirements expertise provides the FVL CFT, Aviation Center of Excellence, and Army Futures Command leadership both organizational flexibility and ACIDS/JCIDS depth to respond to the emerging future operational environment.

COL Michael Johnson is the director of Aviation Platforms Requirements Determination Directorate. APRDD is part of the Aviation Combat Development and Integration Directorate (CDID) at Fort Rucker, AL.



ALL PHOTOS—U.S. ARMY AVIATION PROGRAM OFFICE PHOTO

Each aircraft had numerous Soldier touchpoints.

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Enabling Requirements for Future Vertical Lift and the Enduring Fleet

By COL Marcus Gengler

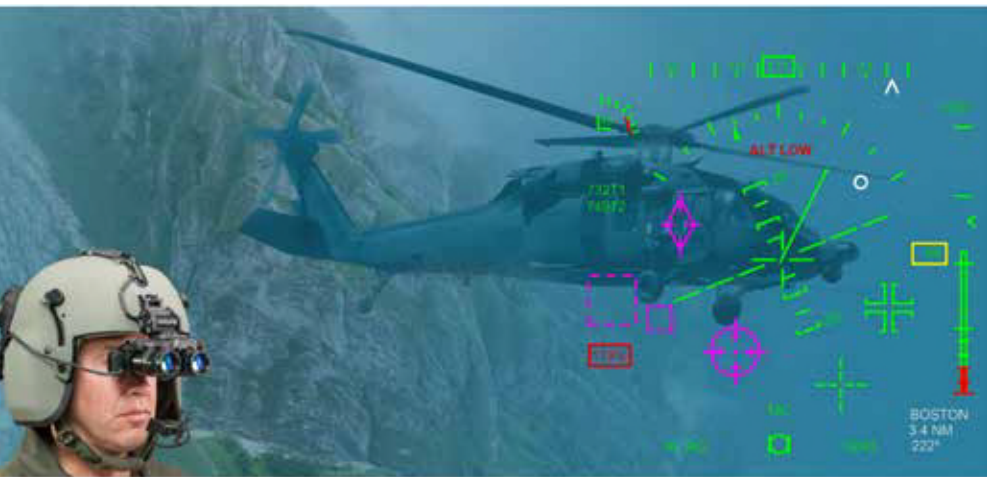


Aviation Enablers Requirements Determination Directorate (AE-RDD) is engaged with the Future Vertical Lift – Cross Functional Team (FVL-CFT) to write enabling requirements for our future fleet while continuing to modernize enabling capabilities on Army Aviation’s enduring fleet of aircraft. Many capabilities will be tested and integrated on UH-60s, CH-47s, and AH-64s before fielding on the FVL fleet; here are just a few of our current modernization efforts.

Degraded Visual Environment (DVE)

In Large-Scale Combat Operations (LSCO) it will not be enough to just “own the night,” we will need to “own the environment.” DVE Increment 1 capitalizes on current sensor technologies to detect terrain, obstacles, hazards, and threats. DVE provides for heads-up eyes-out holistic situational awareness (SA) to the aircrew in real time by projecting common cueing and 3D enhanced symbology in head-tracked helmet displays. Army Aviation is evaluating a portion of this technology on a

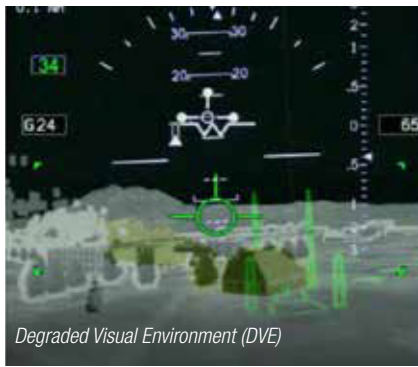
limited number of HH-60Ms and 160th Special Operations aircraft through the Degraded Visual Environment Pilotage System (DVEPS) directed requirement. We expect to begin initial integration of a head tracking, helmet mounted display similar to the current PdM Air Warrior Helmet Display and Tracking System (HDTTS) pending operational feedback from pilots and crews. Once evaluation and testing of these combined capabilities are complete, we anticipate solidifying this requirement for inclusion onto the FVL fleet as well as a limited number of enduring fleet aircraft.



Degraded Visual Environment (DVE)

Army Aviation Integration into the Army’s Common Operating Environment (COE)

Improved situational awareness and sensor to shooter (S2S) information exchange between air and ground forces is critical on the future battlefield. During the competition, penetration, and exploitation problems of Multi-Domain Operations (MDO) we need to be data-centric, relying on multiple, layered networks and tactical edge computing devices supporting extended independent operations. The COE seeks to align currently independent mission command systems (AMPS, TAIS, CPOF, AMDWS, AFATDS, etc.) to support digital information



Degraded Visual Environment (DVE)



Army Aviation Integration into the Army's Common Operating Environment (COE)

Nett Warrior-Aviation (NW-A)



Nett Warrior - Aviation (NW-A)

AE-RDD GRAPHIC

exchanges at all echelons through common computing architecture and data standards. To facilitate this network centric environment, future cockpits will be modernized with the Air Ground Networking Radio and a Nett Warrior – Aviation tablet device.

Air-Ground Network Radio (AGNR)

The AGNR is a multi-channel, software defined radio program of record for dismounted Soldiers; that is also scheduled for integration onto aviation platforms. The AGNR radio replaces the aging AN/ARC-201 (SINCGARS/FM) radio and ultimately provides four-channel capability while replacing two modules. It is multi-band, network capable, and provides modernized satellite communication (Mobile User Objective System - MUOS) to our platform suite. These radios are the transport devices that allow both voice and data air-ground communications between aircraft and supported maneuver elements using the Tactical Scalable MANET (TSM) waveform. Initial integration on the UH-60 begins in FY23 with first unit equipped (FUE) FY24.

Nett Warrior–Aviation (NW-A)

The NW-A device is a commercial off the shelf (COTS) wireless tablet that operates in the Mobile/Handheld computing environment and enables interoperability with joint and combined arms mission command systems. NW-A is also part of the next generation electronic flight bag (EFB) with an architecture that enables a shared aviation/ground Android Tactical Assault Kit (ATAK) common operating picture with ground tactical forces down to the individual. It includes aviation plug-in applications to support EFB functions, WiFi/VPN authentication, and Automatic Dependent Surveillance -Broadcast (ADS-B) (in) for air traffic and weather advisories.

We envision these devices becoming the primary aviation mission planning tool for the modern Army aviator. EFBs are being fielded now and the NW-A will begin fielding late FY21.

Aircrew Combat Equipment (ACE)

ACE is the next generation of aircrew survival vest providing a single solution for air and ground armor. ACE is modeled after the ground Modular Scalable Vest (MSV) with a removable cummerbund style flotation system intended to reduce weight while increasing comfort and tolerability. The base weight of 6.81lbs is ~51% less than the current configuration. Operational testing is planned in April 2021 with first unit equipped in 4th QTR FY21.

Aviation Logistics and Air Traffic Services

Additional enabling capabilities such as the Self-Propelled Crane Aviation

Maintenance and Positioning (SCAMP) version II tracked expeditionary crane, the Aviation Ground Power Unit (AGPU) version 1.1, and the web-based Tactical Airspace Integration System (TAIS) Airspace Work Station (AWS) also provide critical modernization to our current and future aviation force. AE-RDD continues to meet the needs of the modern Aviation warfighter by ensuring that the enabling capabilities of our force are commensurate with the world-class platforms that we support.

COL Marcus Gengler is the director of the Aviation Enablers Requirements Determination Directorate, Aviation Capability Development Integration Directorate at Fort Rucker, AL; with significant contributions from MAJ Chris Lamar, CW4 Sharon Johnston, MAJ John Torrealba, MAJ Anthony Booher and Mr. Eddie Spivey who serve as division chiefs within AE-RDD.



Aircrew Combat Equipment (ACE)

AE-RDD GRAPHIC



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Training Aviation FSCs for Distributed Operations in the Indo-Pacific

By CPT John Walsh



Since its inception in 2014, the Pacific Pathways program has provided U.S. Army Pacific units the opportunity to deploy and train with partner and allied forces in the Indo-Pacific region. Though no two Pacific Pathways deployments are the same, every rotational unit must address the challenge of operating in a distributed environment. Pacific Pathways is a unique stressor of the sustainment warfighting function. For an Aviation task force, a Pacific Pathways deployment requires the Aviation forward support company to provide fuel, ammunition, and maintenance capabilities to multiple locations separated by hundreds of miles of jungle and ocean.

In early 2020, Task Force Hammerhead of the 25th Infantry Division simultaneously operated four forward arming and refueling points (FARP), throughout northern Thailand, enabling an operational range of over 90,000 square-miles: for comparison, the National Training Center at Fort Irwin measures just over 7,000 square miles. In preparation for such a mission, Aviation FSCs must consequently develop training plans that certify squad and section level leaders to execute distributed operations to a greater extent than currently tested at Combat Training Centers. This author's Aviation FSC was required to deploy at most three FARPs for limited duration at a 2020 Joint Readiness Training Center rotation.

Section Certification

The distributed nature of a Pacific Pathways deployment will demand more of junior leaders in the FSC than an average CTC rotation. In preparation for Task Force Hammerhead's deployment, the FSC established a section certification program executed in a six-table format. These six tables evaluated petroleum specialist tasks in ATP 4-43, HEMTT and HTARS maintenance, communications equipment operation, and live day and night FARP establishment. The certification program grew into a best section competition and is now executed quarterly.

The Aviation FSC headquarters was required to command and control multiple nodes that had unique maintenance, personnel, and resupply demands. The synchronization of the Company's resupply efforts with the supported task force's flight schedule was largely the responsibility of the supply



Each FARP Soldier was ammo handler certified to facilitate Class V management

sergeant and operations NCO. In most cases, communications between the FSC headquarters and subordinate elements occurred via JCR and local cell phone. In a communications-degraded environment, JCR would have been the only means of communicating with the distributed FARPs.

Cross Training

The Aviation FSC MTOE varies by supported battalion, and the unique considerations of each Pacific Pathways mission will dictate different requirements for every Aviation task force. Due to the complex physical and human geography of the Indo-Pacific region, Aviation FSC commanders must be prepared to deviate from standard MTOEs to tailor support to mission requirements.

A cross-training program that addresses MTOE shortfalls can be implemented to ensure FARP sections are prepared to distribute fuel and ammunition, maintain their equipment, and defend the FARP. In Pacific Pathways 2020, Task Force Hammerhead's Aviation FSC's four FARPs required 40 personnel, 16 fuel tankers, and associated maintenance equipment and rolling stock. Each section included maintenance and fuel personnel. Regardless of MOS, each Soldier attended the ammunition handler's course and fuel handler's course to ensure that every section was prepared to distribute Class V and to build a bench of auxiliary fuel handlers across MOSs. The FSC headquarters retained a robust maintenance section to serve as a contact team to any FARP requiring maintenance beyond the capacity of the section.

The equipment set and personnel complement for each FARP provided the commander the ability to maintain 24-

hour operations when necessary and to establish secondary FARPs in the local area. Task Force Hammerhead was able to operate three secondary FARPs in support of live fire operations in addition to the four main FARPs across Thailand.

Lessons Learned

Conducting a battery of section certification exercises proved instrumental in Task Force Hammerhead's ability to sustain Aviation operations over an area spanning nearly 90,000 square miles. Not only did each section execute its collective tasks more efficiently, but standardization of FARP procedures across the four sections also made it simple to move qualified individuals to different FARPs in order to allow them to experience different areas of the country.

Certification of the FSC headquarters' command and control functions should be conducted in conjunction with FARP section certifications. Further improvements can be made across the FSC to standardize reporting timelines, leverage the digital report formats of the JCR-LOG, and incorporate JCR training into a certification program.

The INDOPACOM AOR is one of the most diverse regions on earth. No single MTOE change or doctrinal guideline will ensure the success of an Aviation FSC in a Pacific Pathways rotation. However, an Aviation FSC that is prepared to survive and thrive in a distributed, austere environment will likely thrive in any environment.

CPT John Walsh is the commander of Company E, 3rd Bn., 25th Cbt. Avn. Bde., at Wheeler Army Airfield, HI.

AAAA AIR ASSAULT CHAPTER

2021 Golf Tournament

WHERE: Gaylord Springs Golf Links . 18 Springhouse Lane, Nashville, TN 37214
<http://www.gaylordsprings.com/>

WHEN: Tuesday, April 20, 2021; Shotgun start 0730 (morning) and 1315 (afternoon)

FORMAT: 4 Person Scramble

COST: \$115 per player, total 144 golfers for morning and 144 golfers for afternoon. Cost covers green fees, cart with GPS system, breakfast, lunch, hors d'oeuvres and all standard golf amenities including range balls, club cleaning and bag handling. Accepting team and individual registration (including handicap), first paid 288 responses accepted on a first come, first filled basis. Rental clubs available. Paid registration due by April 9, 2021. All cards accepted, except American Express.

REGISTRATION: Visit <http://2021aaaagolftournament.ezregister.com> to register as an individual golfer, a foursome, or select a sponsorship level. **EZRegister link opens February 15th!**

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Maximizing FARP Efficiency for Attack Operations in Large Scale Combat Operations

By CPT Edmund Lee and CPT Ryan Riemer



An attack company refuels at a JFARP to enable extended reach for an attack out of contact with friendly forces.

ARMY PHOTO BY CPT RYAN RIEMER

ATP 3-04.1 Aviation Tactical Employment notes that forward arming and refueling points (FARPs) often become a limiting factor when conducting sustained attack aviation operations. In attack battalions (AB) and air cavalry squadrons (ACS), aviation planners often lack a thorough understanding of sustainment operations and their organic Forward Support Company/Troop (FSC/T) capabilities. The reverse holds true for logisticians in the FSC/T and S-4 shop, who may not understand some of the unique requirements of aviation FARPs compared to the Refuel On the Move techniques utilized by brigade combat teams. This article provides some basic techniques and lessons learned from 4-2 Attack Battalion's experience simulating Large Scale Combat Operations (LSCO) in the Korean theater to supplement the broad planning considerations in ATP 3-04.17, Techniques for Forward Arming and Refueling Points.

From 2018 to 2020, 4-2 Attack Battalion (Death Dealers), 2nd Combat Aviation Brigade conducted several battalion-level training events, eventually culminating in all three companies conducting a simulated phased attack out of contact with friendly forces approximately 210 kilometers from the tactical assembly area (TAA). To extend operational reach and maximize aircraft time on station, the organic FSC emplaced an eight-point jump FARP (JFARP) consisting of two four-point HEMTT Tanker Aviation Refueling Systems (HTARS) approximately 120 kilometers from the TAA.

Surge Ops Support

During "surge" operations such as phased or maximum destruction attacks, logistics planners should aim to emplace the maximum amount of FARP pads at the TAA

or JFARP to maximize throughput and minimize aircraft idle time. The current Military Table of Organization and Equipment (MTOE) authorizes an FSC/T three HTARS and two Advanced Aviation Forward Area Refueling Systems (AAFARS). Assuming all equipment is on-hand and operational, the three HTARS can support four points each for a total of twelve points, while the AAFARS can theoretically also support four points each for an additional eight points. Based on real-world experience, the HTARS and M978 HEMTT supply sufficient pressure to simultaneously refuel up to four points, with an increase of approximately three to five minutes refueling time compared to refueling three pads simultaneously. The AAFARS can be sling-loaded or carried internally by a CH-47 Chinook to provide JFARP capability. However, the AAFARS provides minimal pressure when refueling more than one point at a time, making it a secondary option when speed and throughput are primary considerations. 4-2 AB employed two M978 HEMTT fuel tankers per four-point HTARS, utilizing the Y-hose fitting (NSN: 4730-01-515-3578) from the AAFARS. This configuration provided approximately 4,800 gallons of JP8 per four-point HTARS, and the ability to rapidly switch distribution trucks should a pump fail.

A potential surge mission could consist of two four-point HTARS for an eight-point JFARP to maximize aircraft throughput, with the two AAFARS in reserve or utilized for a second JFARP or silent FARP. The third four-point HTARS would support the TAA FARP, with remaining M978 HEMTT tankers capable of conducting cold or warm refuel directly to aircraft. This configuration requires substantial physical space and assumes the FSC/T has

most of its equipment fully mission capable. It also assumes the FSC/T is operating without augmentation from the Aviation Support Battalion (ASB) or other external enablers. It is critically essential that the FSC/T commander and S4 are incorporated into the Military Decision Making Process (MDMP) early so they can understand mission requirements, generate options for the commander, and request augmented support, as necessary.

Considering Rearm Time

Attack aviation FARPs are uniquely different from lift aviation FARPs in that AH-64s require extended time for rearming. It is not unusual for aircraft to spend anywhere from ten to thirty additional minutes on a pad rearming after they have completed refueling. Techniques to minimize this downtime include cross-training personnel and optimal task organization at the FARPs. In 4-2 AB's FSC distribution platoon, all of the 88Ms (Motor Transport Operators), 89Bs (Ammunition Specialists), and 92Fs (Petroleum Supply Specialists) were cross-trained to conduct refueling operations, as well as assist 15Ys (AH-64 Armament/Electrical/Aviation Systems Repairers) with loading rockets and missiles. Using the previous surge scenario, the distribution platoon has enough personnel (approximately fifty by MTOE) to simultaneously man

all of the FARP pads with two to four Solders each, with personnel leftover for post-surge operations. This cross-training frees up the usually limited numbers of 15Ys to conduct the more technical task of reloading 30mm rounds, as well as troubleshooting aircraft issues or supervising rocket and missile rearming.

An Aviation maintenance company/ troop (AMC/T) typically has thirty to forty 15Ys, with their tasks split between scheduled/unscheduled maintenance, troubleshooting aircraft issues during launch and recovery, and supporting FARP operations. One viable method of task organization is to attach a sub-section of 15Ys to each four-point FARP, subordinate to the FARP officer or noncommissioned officer in charge. A sergeant or above would lead each sub-section, with subordinate teams of at least two 15Ys per FARP point. The two team members would focus on 30mm reloading, allowing the sub-section leader to supervise rocket and missile rearming or troubleshoot aircraft issues. Using the surge scenario of eight JFARP points and four TAA points, this would incur a requirement of approximately twenty-seven 15Ys, which seems high but is attainable for a momentary surge period. As necessary, Soldiers from the other companies/ troops can easily further augment rocket/missile rearming teams during a surge operation. The Army may need

to increase the amount of 15Ys in the AMC/T MTOE to account for the expected increase of unscheduled maintenance, battle damage repair, and aircraft recovery tasks in a LSCO environment.

Summary

FARPs are critical to achieving offensive concentration and sustaining tempo in attack aviation operations. This article has provided a few methods for supporting a maximum destruction or phased attack operation, using only organic AB/ACS equipment and personnel. Key to these techniques is understanding and maximizing use of on-hand equipment, cross-training Soldiers to conduct multiple tasks, and effective leadership in the right locations. Ultimately, it is essential that aviation and logistics planners work together throughout all stages of MDMP to appropriately assess mission requirements, generate viable and sustainable courses of action, and request external support, as necessary.

CPT Edmund Lee is an aviation officer at Fort Rucker, AL, and CPT Ryan Riemer is the 8th U.S. Army G-4 POL & Water Branch Chief at U.S. Army Garrison Humphreys, Korea. Both were previously assigned to 4th Battalion (Attack), 2nd Combat Aviation Brigade.



4-2 AB Soldiers conduct cross-training to increase efficiency and proficiency of rearming operations.

Historical Perspective ▶

Reprinted from the May 31, 1979 Issue of ARMY AVIATION Magazine



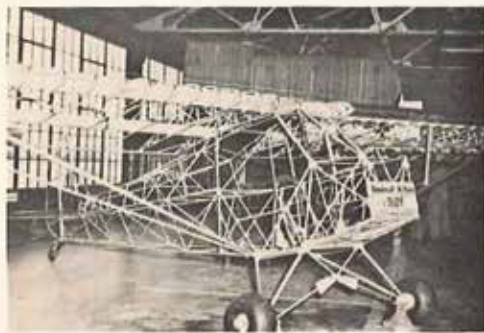
**THE FLIGHT LINE AT POST FIELD,
FT. SILL, OKLAHOMA - JUNE 1942**



LEADERS - Colonel (later Brig. Gen.) William W. Ford, left, and Lt. Col. Gordon J. Wolf, served as the first Director and the first Executive Officer of the Field Artillery School's 1942 Department of Air Training.



WATCH ME! - Captain Robert M. Leich, kneeling, the DAT's first Maintenance Officer, shows 1LT Lloyd M. Bornstein, left, and Marion M. "Jake" Fortner, where the Cub's exhaust pipes let the "65 horses snort."



SUZY - The original "training aid"! Devoid of its fabric, the Piper L-4's basic tube steel framework and ultra-simple landing gear are shown in this '42 photo. Virtually maintenance-free, the Cub was liked by all.



THE INTREPID! - Out amongst the southern pines with their Cubs, Liaison Pilots "Jake" Fortner and Lloyd Bornstein (at the left) are joined by a spiffy garrison "Flyboy," 1st Lt Charles W. "Chuck" Lefever.



YOUNGSTER! - Captain Robert M. Leich, left, (with cigarette in hand), is joined on the flight line by a young Academy graduate, Lieutenant Robert R. Williams. The time and place? Mid-1942, Fort Sill, Okla.



LET'S DO IT! - Lieutenants "Bob" Williams, left, and Paget W. Thornton, center, listen attentively as Captain "Bob" Leich (with cigarette in left hand), describes one leg of a coming triangular cross-country.



MY TURN! - The official photographer (and unofficial chronicler) of the 1942 "Birdmen" was Lieutenant (later LTC) Henry S. Wann, a former Piper Aircraft Company pilot, who served as the unit's resident pro.



SUNNING! - Soaking up some sunshine (You tell me what else could they be doing) are, l-r, Lieutenants Bryce Wilson, Chuck Lefever, Ed Houser, and Bob Williams. Maj. Gordon Wolf (sunglasses) is in the center.



HOMEWORK! - Notebooks and pencils at the ready, Assistant Engineering Officers Fortner, left, and Bornstein, right, take notes as Capt. Bob Leich, with cigarette in left hand, covers a maintenance detail.



NO CONTEST! - Even in 1942, aviators argued about who was 'The Best!' Most agreed Lt. Del Bristol, left, was the sharpest pilot of the group, but ALL agreed Stanford graduate Wilson was the "best looking"



AAAA

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AAAA Chapter Affairs By LTC (Ret.) Jan Drabczuk

I greatly appreciate the support from LTC (R) Ed Williams, the Ragin' Cajun Chapter President and LTC JD Swinney, the Ragin' Cajun Chapter VP for sharing this information with our membership.

The Ragin' Cajun Chapter



Last year was difficult for everyone, but the pandemic and social distancing was particularly difficult for social and professional organizations such as AAAA.

After hard work building chapter membership and programs through 2019, the Ragin' Cajun Chapter had to cancel many events during 2020. Still, the Chapter finished on a high note with an excellent holiday social, new officers, and a plan for growth in 2021.

The Ragin' Cajun Chapter supports the Fort Polk, LA Aviation community. Chapter membership consists of the Soldiers and families of 1st Battalion 5th Aviation Regt., the Aviation Task Force from the Joint Readiness Training Center's (JRTC) Operations Group, and Soldiers from 3rd Brigade 10th Mountain Division in addition to retired and civilian Army Aviation supporters from the surrounding area. On top scholarships and recognition, the Ragin' Cajun Chapter's focus is building a community of professionals that supports each other, the JRTC and Fort Polk mission, and Army Aviation.

Many of the Chapter's events were cancelled during 2020. However, the Chapter's holiday social was able to proceed with a few extra precautions. The COVID environment made the event more challenging than usual, but everyone still had a great time. Over 150 Chapter members and families attended the holiday party which included a catered dinner, a visit from Santa Claus, movies, games, and prizes. 1st Battalion 5th Avn. Regt. hosted the event in a venue that provided ample space for socially distanced seating and indoor activities. COVID mitigation measures included symptoms checks upon entry, mandatory mask wearing, and individually packaged dinners served to the ta-

bles. In a year where community building and social activities were difficult or non-existent the Ragin' Cajun AAAA Winter Social was a welcome respite for Chapter members.

Planning Growth

The Chapter plans to build and grow in 2021; our leadership has planned six meetings throughout the year in addition to the holiday social. The Chapter plans to build a membership base that has declined in the last two years, and to increase outreach efforts beyond the installation.

These events are important to a Chapter and Aviation community that lives an unusual battle rhythm. JRTC supports nine to ten nearly month-long rotations per year. The Aviators in Operations Group serve as observer coach trainers (OC-T) for Aviation task forces that support each rotation. Their vast experience ensures that JRTC delivers world-class training to the Aviation force and ensures that each Aviation task force leaves JRTC ready to deploy and win. 1st Battalion 5th Aviation supports JRTC OC-Ts and provides Aviation support to 1-509th opposing forces with the battalion's fleet of UH-72 Lakotas. The battalion's UH-60L fleet provides VIP and air assault support to both JRTC and Fort Polk tenant units, and Cajun DUSTOFF, 1-5 Aviation's Air Ambulance Detachment, supports JRTC and Fort Polk with two daily lines of MEDEVAC support. During some months, Cajun DUSTOFF crews launch on over 30 point-of-injury evacuations. Whether on or off rotation,

the active-duty membership of the Ragin' Cajun Chapter is on duty 24 hours a day for 365 days a year making Chapter events as difficult to schedule as they are important for establishing a sense of community and camaraderie.

Building Momentum

The Ragin' Cajun Chapter accepts the challenge because our members and leaders realize how important organizations like AAAA are – not only to Army Aviation, but for veterans and service members. One of the highlights of AAAA events is the connections they establish between current and former service members. The stories, connections, and advice from those who have been there and done that both in and out of the Army are priceless to our active-duty membership. Our Chapter president LTC(R) Ed Williams and former 1-5 Aviation commander COL(R) Charlie Elliot are crucial to the success of the Chapter. By establishing a predictable and regular battle rhythm of Chapter events the Ragin' Cajun Chapter hopes to build its retired and civilian membership this year.

Here's to starting 2021 strong and building momentum into 2022! Ragin' Cajuns Out!

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.

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



FALLEN HEROES

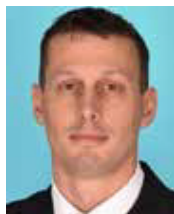
AAAA is saddened to announce the recent loss of three Army Aviators.

CONUS

The New York National Guard announced three of their members died the early evening of January 20, 2021 when their UH-60 Black Hawk helicopter crashed in Mendon, NY during night vision goggle proficiency training in the local training area.



CW5 Skoda



CW4 Koch



CW2 Prial

Killed were:

Chief Warrant Officer 5 Steven Frank Skoda, 54, from Rochester, New York;
Chief Warrant Officer 4 Christian Joseph Koch, 39, from Honeoye Falls, New York; and,
Chief Warrant Officer 2 Daniel Gregory Prial, 30, from Rochester, New York.

All three were assigned to Company C, 1-171st General Support Aviation Battalion stationed at the Army Aviation Support Facility, Rochester International Airport.
 The accident is presently under investigation.

May they rest in peace.

(Information from New York National Guard news releases and other media sources.)

AAAA Chapter News

Aloha Chapter Scholarships



CHAPTER COURTESY PHOTO

The Aloha Chapter and 25th Combat Aviation Brigade leadership recognized the continued pursuit of academic excellence and service through the AAAA Scholarship Program. As a result of fundraising and matching National Chapter funds, three deserving leaders earned scholarships to apply to their personal and professional growth. Congratulations to Miss Paola Gonzalez, Mrs. Amy O'Neill, and Miss Sarah Tingstrom! Pictured (l to r): MAJ Kevin Britt, CW5 Shayne Atkinson, LTC Matthew O'Neill, Mrs. Amy O'Neill, COL R.J. Garcia, CSM Leon Black, CPT Adam Lowe, and MAJ Matt McNeal.

Aviation Center Chapter – Passing of CW5 (Ret.) Wright



CHAPTER COURTESY PHOTO

CW5 (Ret.) John David Wright, age 68, passed away December 8, 2020 at Brookwood Baptist Medical Center in Birmingham, AL. He was a Master Army Aviator qualified in the AH-1, UH-1, and OH-58A/C. His awards and decorations included the Legion of Merit, Meritorious Service Medal with 3 oak leaf clusters, Army Commendation Medal with 4 oak leaf clusters, among others. He retired in 2009 after 34 years and continued to serve for 8 years as a subject matter expert contractor in aviation training, personnel, and organization for the U.S. Army Aviation Center of Excellence. He was a volunteer pilot for Alabama Puppy Rescue Flights facilitating adoption for hundreds of shelter and rescue animals. John will always be known as a generous and humble Soldier, Warrant Officer, Aviator, and quiet professional. The family received friends at Searcy Funeral Home on Saturday, December 12, 2020 with a

graveside service at MeadowLawn Cemetery, Enterprise AL. May he rest in peace.

Order of St. Michael Inductees

Morning Calm Chapter



CHAPTER COURTESY PHOTO

COL R. Levi Dunton (right), G-3 Aviation, Eighth Army, is inducted into the Silver Honorable Order of St. Michael by Morning Calm chapter president, COL Aaron Martin, on Jan. 19 at Eighth Army headquarters, Camp Humphreys, Korea. Dunton was recognized for over 25 years of service to Army Aviation including: command of 615th Aviation Support Battalion, multiple leadership and staff positions, instructor at the Joint Air Operations Command and Control Course and others. He has flown over 1,450 hours with more than 540 combat hours.



AAAA Membership Update

By CW4 Becki Chambers

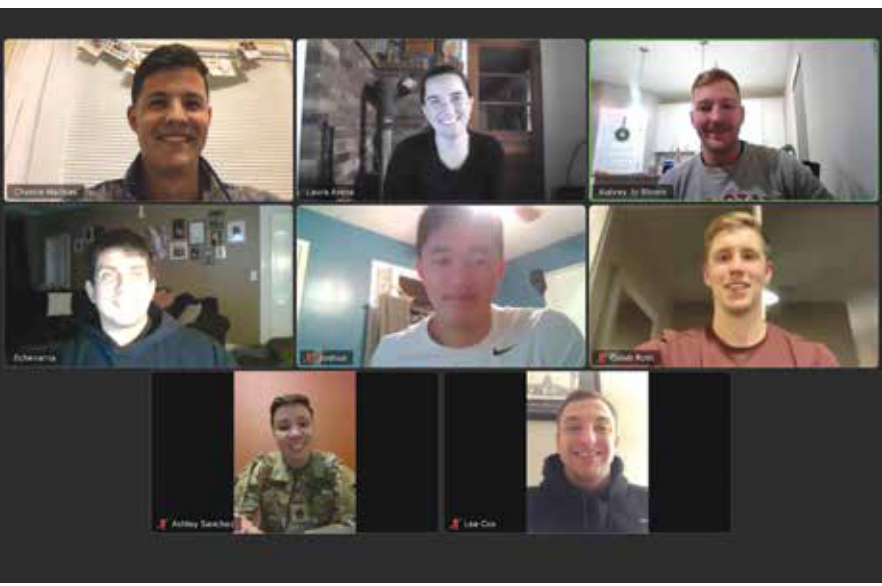
The Membership Corner

As I've said many times, if our organization is to continue to grow and thrive, we need to recruit young members. And by young, I am not simply referring to age – I'm referring to those that are new to Army Aviation.

Three of our National Members-at-Large are spearheading our new Membership Advisory Council: 1LT Chance Mathias, WO1 Aubrey Bloom, and SGT Ashley Sanchez. I asked 1LT Mathias to write a brief summary about the committee, what they have accomplished so far, and their future goals.

AAAA's National Membership Advisory Council serves under AAAA's Membership Committee with commissioned, warrant, and noncommissioned officers. We exist to generate and coordinate support for new members of AAAA and provide our perspective as young Soldiers so AAAA can better serve and maintain relevance among young people and the current force.

Our vision is to ultimately build a cohesive unit, consisting of five commissioned officers, five warrant officers, and five noncommissioned officers, to assist AAAA in building a more active membership base. Since the council's creation in August of 2020, the volunteers of this council have utilized the group's diverse nature with motivation and creativity to serve AAAA's younger members. While the council is a group that serves AAAA's national membership interests, with many of the volunteers training at Fort Rucker, AL for flight school, the council's first few months were focused on AAAA's membership base in Fort Rucker. Since August, the



AAAA National Membership Advisory Council virtual meeting.

council has accomplished many local initiatives such as: assisted in AAAA gift product development for graduating flight students, generated greater cohesion between flight students and Fort Rucker's AAAA, and coordinated an AAAA golf scramble fundraiser.

Most notably, the council initiated, coordinated, and supported several volunteers and funds for a Thanksgiving dinner for the local community. This Thanksgiving drive was led and hosted by Chopper's Ol' School BBQ, a restaurant in Daleville, AL, that donates meals in dedication and appreciation to the military families and community. AAAA raised significant funds, awareness, and support for this event, and despite 2020 being a difficult year, the restaurant stepped up to serve the community for its 8th consecutive year.

As the council grows to its full strength of advisors, and as many in the council complete flight training and transition to the operational force, it will widen its scope from a Fort Rucker specific focus to a wider national lens. Our goal is to provide the leadership of AAAA and its members with a diverse and inclusive perspective, which is rep-

resentative of today's Army Aviation. This council is another tool for AAAA to understand the needs and desires of its members.

The council is represented by current active, guard, and reserve aviators and mechanics. Unified and representative of all Army rank structures, the council is led by 1LT Chance Mathias, WO1 Aubrey Bloom, and SSG Ashley Sanchez and currently consists of 1LT Megan Pontius, 1LT Caleb Roth, 2LT Joshua Rhee, 2LT Lee Cox, WO1 Gabrielle Bernal, WO1 Earl (Jason) Echevarria, WO1 Ian Fajardo, and WO1 Alex Adkins. We are further assisted by Laura Arena and Chelsea Jarvis at the AAAA National headquarters. Thank you to everyone that is participating on this committee. We look forward to your continued success.

On another note, if you have a Soldier in your unit who you think should be highlighted in this column, please reach out to me at beckichambers@quad-a.org. I'm always looking for people to highlight in this feature.

CW4 Becki Chambers
AAAA Vice President for Membership



New AAAA Life Members

- Air Assault Chapter**
LTC Richard C. Carroll, Ret.
SFC Henry A. Cerritos Caceres
- Central Florida Chapter**
MAJ Al LoPresti, Ret.
- MacArthur Chapter**
1SG WARREN MCDOWELL
- Morning Calm Chapter**
LTC James E. Brant
LTC Peter Schmitt
- Stonewall Jackson Chapter**
MAJ Hugh W. Adams, Ret.
- Tennessee Valley Chapter**
Jason Swafford
- Thunderbird Chapter**
COL Enrique Ortiz Jr.

New AAAA Members

- Air Assault Chapter**
1LT Jarod Duesing
1SG Marcus Slade
- Big Sky Chapter**
Simon Shackelton
- Connecticut Chapter**
Dina Halvorsen
- Flying Gator Chapter**
LTC Michael C. Adler
- Grizzly Chapter**
SPC Kenneth A. Center
SSG Yvette Nanez
SPC Christian V. Perez
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SGT Jonathan D. Westcott
- Morning Calm Chapter**
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SSG Nathan Hood
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- Southern California Chapter**
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Neil Gavin
Francisco Gil
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Jayana Johnson
Michael Kelly
Ebice Minjares
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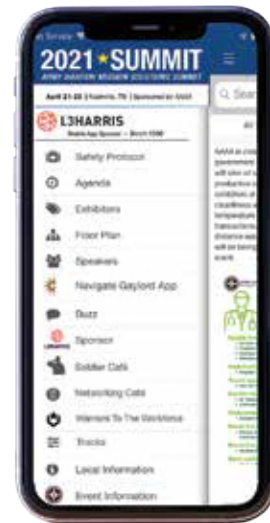
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- Thunderbird Chapter**
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Rich Carter
Rebecca Sadegh
- No Chapter Affiliation**
Christophe Chollet
Derek Davis
Sandra Finch
Gary Gilbert
Jeff Kataoka

- Lost AAAA Members**
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- CPT Robert S. Boham
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MAJ Gregory R. Jenkins
MAJ David A. Jobe
LTC Peter D. Kowal
CW3 Vladimir Kultschizky
CW3 Timothy J. Larz
WO1 Joshua Link
MSG David W. Little, Ret.
MSG Joe Moreira, Ret.
SGM Ivonne M. Morrison, Ret.
CSM Vernie Nance, Ret.
MAJ Darrel B. Nerove
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SFC Henry R. Rathbone, Ret.
Tony Sanchez
LTC Martin Scheld
Thomas R. Schiltz
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LTC Jerry D. Scott
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WO1 Armando B. Torres
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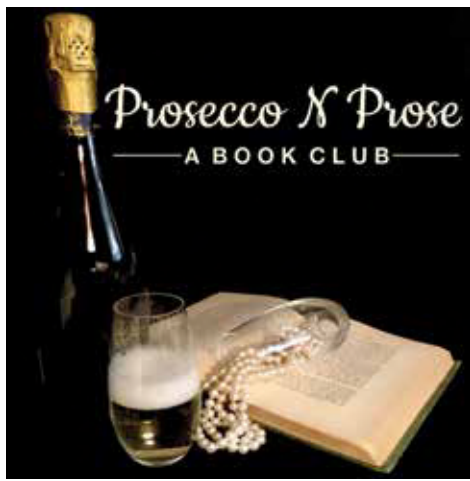
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AAAA Family Forum By Judy Konitzer

I am very excited to have been contacted by Wendy Knowlton and Amy Horner who read this column and wished to share info about their innovative book club podcast. I hope this opens doors for those wishing to share their own entrepreneurial experiences with our readers.

Prosecco N Prose A Book Club with Perlage By Wendy Knowlton and Amy Horner



Bubbly, buddies, and books ... a trio of trouble or a triple treat? We like to think it's a little bit of both and a whole lot of fun.

Wendy Knowlton (left) and Amy Horner recording in their home studio.

Book clubs have long been a way for military spouses to connect, but what happens when, inevitably, your family must move? We met when our husbands were stationed together at Fort Campbell, Ky, at the most traditional of military spouse meeting places, a dirty taco restaurant serving toxic level margaritas. As two English majors and teachers, we bonded over our shared love of literature and good book clubs. We tossed around this idea of a book club podcast as a place for military spouses and book club members to come back to even after moving on to a new duty station and decided if we were ever stationed together again, we would do it.

Eight years later, over a reunion dinner, Prosecco N Prose was born. We had absolutely no idea what we were getting ourselves into and every step was a learning curve, but armed with bubbly and our love of literature, we got down to work. It was important to set ourselves apart from other bookish podcasts, so we listened — to A LOT of

other podcasts to help us narrow in on what we wanted to accomplish for our podcast. We wanted to create a space to discuss literature, not a book review, and the teacher in each of us also wanted to put a little learning spin on it. Our goal was, and is, to nurture a love of literature, and hopefully spark discussions that boost readers' enjoyment.

Starting a podcast, we learned, takes a bit more than getting in front of the microphone and talking. As teachers, we are completely comfortable in front of the classroom, but our first attempt at recording was a different story. We sat down in our makeshift studio, our beat laboratory, and completely froze. Five hours and three recordings later, we hoped we had something we could eventually publish. We did and seeing it pop up on Apple Podcasts was quite a moment. We laugh now because recording day has become one of our favorite days in the process. And why not? It's the day we pop the bubbly and talk about books!

A lot happens before recording day. We choose our prose, which is a mix of short stories and novels. We are always looking for recommendations and our second season features many of those recommendations; some of them have even come from authors themselves. It's always fun when a recommended book expands your reading horizon. Pairing our prosecco is quite superficial: does the label complement our book in any way? We brainstorm discussion topics, reach out to authors, research our prosecco and other topics covered, and then it's script writing time.

After recording day, there's editing, publishing, and promoting. All of which we do ourselves. From start to finish, it takes us about two weeks to publish an episode. We have discussed all kinds of literature, from a pandemic themed short story to best sellers like *The Dutch House* and *Where the Crawdads Sing* to a military short story from Mark Twain and a West Point novel *Beyond the Point* to a holiday



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children's classic *The Best Christmas Pageant Ever*. Book clubs will continue to be a big part of the military spouse community and we have literally made our book club virtual. You can find us on all podcast platforms, Twitter, Instagram, Facebook, and our website, proseconprose.com. And that word perlage? That's just the bubbles in your glass! Check us out, look for our tile as pictured above, and as we always say, pop a cork and read!

Wendy Knowlton is the spouse of CW5 Rick Knowlton, Senior Warrant Officer Advisor for the Army Talent Management Task Force; Amy Horner is the spouse of CW5 (R) Terry Horner, currently working for Bell Textron Inc. since retirement from DAMO-AV at the Pentagon.

Judy Konitzer is the family forum editor for ARMY AVIATION; questions and suggestions can be directed to her at judy@quad-a.org.

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Joel L. DiMaggio
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CSM Phillip G. Peguese
Washington-Potomac Chapter
CW5 Kevin M Purtee
Jack H. Dibrell/Alamo Chapter
COL James P. Schreffler
ShowMe Chapter

Bronze

MAJ Amanda B. Charlton
Aviation Center Chapter

SFC Joshua A. Clark
Aviation Center Chapter
SFC Jimmie L. Crutcher
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CPT John P Gomez
Southern California Chapter
CW4 Joeseeph Harris
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SFC Tyler P. Hervey
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SFC Joshua B. Jackson
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CW2 Tory A. Kirk
Aviation Center Chapter
CW4 Thomas A. Montijo
Aviation Center Chapter
CPT Kimberly A. Smith
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CW4 Andres E. Valenzuela
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Our Lady of Loreto Inductees



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Any questions? Call 203 268-2450.

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- 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

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AAAA Legislative Report

By LTC Kevin Cochie, Retired
AAAA Representative to the Military Coalition (TMC)
kevin.cochie@quad-a.org

2021... Keep the Nose Pointed Into the Shifting Political Winds

As this article is being written, Joseph R. Biden is being sworn into office as the 46th President of the United States on the east side of the Capitol where just weeks ago, a violent and deadly assault threatened the integrity of our Democracy. The inauguration occurred under the umbrella of the 117th Congress that was sworn in a week prior and a Congress that is now controlled, along with the White House, by the Democratic Party. For the last two years, the White House was Republican controlled with Congressional control split between the two parties, effectively causing a situation where compromise was necessary to get annual defense legislation completed. Now, one party controls it all and defense policies and spending will pass at the discretion of their agenda. We cannot predict if this is good or bad for Army Aviation, but one thing we know with certainty is the relationships built by our Army Aviation leadership in recent years will form the basis of the credibility needed to argue for sustained aviation readiness and modernization programs. AAAA and our aviation leadership does not take a parochial position in politics and we strive through this report to educate our reader base of the facts of the political situation as it relates to Army Aviation and the processes that effect the stakeholders in our enterprise which includes Soldiers serving in Army Aviation and our industry partners that serve critical roles in readiness and modernization.

FY22 Congressional Cycle

The FY21 defense authorization act (NDAA) and defense appropriation act were both passed this past December establishing policy and funding for DoD and Army Aviation for the 2021 calendar year. As discussed in previous articles, Congress passed into law over \$750B for DoD marking a 4th year of substantial defense funding that has positive impacts for aviation readiness and future modernization programs. The FY22 cycle,

by process, is set to begin in early February when the annual Pentagon budget is passed to Congress via the White House and then into the Congressional mark-up mechanism by the four defense committees. This is where our reader base should turn your attention in the months to come and we'll explain why.

Biden Policy Priorities Versus Trump Policy Priorities

The Pentagon budget is developed a year in advance of being passed to Congress, so as a reminder, the FY22 defense budget was created under a Trump administration; championed by Trump appointed civil servants serving in the Pentagon. In 2017, the FY18 defense budget was delayed for months when Trump directed the Pentagon to "re-do" the budget days after his inauguration. Will this be the case with President Biden, or will his administration allow the FY22 budget request to move to Congress in the form it was developed over the past year? Or is there another option by which President Biden can accomplish his agenda without imposing a budget re-do like President Trump did?

Political Control – The "Other Option"

For the sake of our Army Aviation leadership spanning from Army Futures Command to PEO Aviation to G3 Aviation, we hope the DoD is not in a budget re-do situation. The other approach we may see from the Biden administration is passing the FY22 budget to Congress in its current form, because all four defense committees are majority controlled by the Democratic Party who can make changes during the congressional markup period that reflect the policies of the new administration. So, in simple terms, the Democratic-controlled committees will have the numbers needed to adjust the FY22 budget request and pass the adjusted legislation out of their committees and through the full chambers of both the House and Senate. Some may think this will result in drastic changes to

the DoD, but not so fast. As we watch this play out, it's important to recognize that not all Republicans are the same and not all Democrats are the same. In the House for example, there are far right and far left politicians that sometimes vote against their party's position. The same occurs in the Senate, so when it comes to defense policy and funding and especially Army Aviation, we have moderate lawmakers at the head of these committees that deeply care about national security. Senate Armed Services Committee chairman Jack Reed (D-RI) is a former Army officer who works very closely with Ranking Member Jim Inhofe (R-OK) on defense issues. Bottom line is that we should not rush to judgment on the big shift in political winds and what it means to Army Aviation. We are fortunate to have leaders like BG McCurry and BG Rugen, both of whom have over a combined decade of working with Capitol Hill on Army Aviation issues. No pressure gentleman!

Stay calm, right pedal, left pedal; keep our nose pointed into the shifting political winds.

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Lockheed-Boeing Unveils Defiant X

LOCKHEED MARTIN AND BOEING ARTISTIC RENDERING



The Lockheed Martin-owned Sikorsky and Boeing team unveiled the Defiant X on January 25 as its planned submission for the U.S. Army's Future Long-Range

Assault Aircraft (FLRAA) competition. The modified, competition-ready aircraft design takes the same surname as Raider X, which is Lockheed's submission for the Army's other helicopter competition – the Future Attack Reconnaissance Aircraft (FARA) program. Both aircraft build off and scale up from Sikorsky's X2 demonstrator which flew for the first time in 2008. Defiant X features changes to the outer mold line compared to the demonstrator airframe, such as a sharper nose cone; a tricycle-style landing gear; changes to the exhaust system and an integrated mission systems package.

Lockheed's Michele Evans

LOCKHEED MARTIN COURTESY PHOTO



Michele Evans, who led Lockheed Martin's Aeronautics business since 2018, died on Jan. 1, the company announced on Jan. 2. Evans took a leave of absence that began Dec. 1 "to address health issues unrelated to the coronavirus pandemic," according to a Securities and Exchange Commission filing by the company. She previously took medical leave in September 2019 due to a cancer diagnosis, according to Reuters. Greg Ulmer, who leads the F-35 Joint Strike Fighter program, is filling in as head of Lockheed Martin's Aeronautics unit in the interim.

Teledyne to Buy FLIR

TELEDYNE GRAPHIC



FLIR GRAPHIC

Teledyne Technologies Inc. is acquiring FLIR Systems Inc., the thermal-imaging sensor maker, in a cash-and-stock transaction valued at approximately \$8 billion. The deal, which is expected to close in the middle of this year (pending regulatory approvals), creates a larger new contender for unmanned systems in the air, land and sea – or for optionally manned systems, as well as nascent Defense Department satellites to detect and track hypersonic missiles.

Arcturus to be Bought by AeroVironment



Army units are evaluating Arcturus' Jump 20 UAS.

ARCTURUS UAV™

AeroVironment, a leading supplier of unmanned aircraft systems to the U.S. military, has purchased Arcturus UAV for \$405 million. Arcturus is currently competing for a \$1 billion Army contract to replace the Shadow tactical unmanned aircraft system. Arcturus

previously supplied UAS to U.S. Special Operations Command's \$1.4 billion MEUAS III and IV programs. The transaction is expected to be complete by the final quarter of fiscal 2021, and Arcturus will operate as a wholly owned subsidiary of AeroVironment.

Contracts – (From various sources. An "*" by a company name indicates a small business contract)

Amentum Services Inc., Germantown, MD, was awarded a \$68,290,284 modification to contract W9124G-17-C-0005 to provide undergraduate initial entry rotary wing and selected graduate course flight training, simulator flight training and flight academics; work will be performed at Fort Rucker, AL, with an estimated completion date of Jan. 9, 2022.

General Electric Aviation, Lynn, MA, was awarded a \$126,450,000 maximum ceiling, firm-fixed-price, indefinite-delivery/indefinite-quantity contract to provide life-cycle contractor support for the YT706-GE-700 engine and components in support of U.S. Special Operations Command (USSOCOM); the contract has a seven-year ordering period, and the majority of the work will be performed in Lynn.

AAI Corp., doing business as Textron Systems, Hunt Valley, MD, was awarded a \$36,680,072 fixed-price-incentive contract for contractor logistics support for the Tactical Unmanned Aircraft System; work will be performed in Hunt Valley, with an estimated completion date of Dec. 31, 2021.

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People On The Move

Aviation General Officer Promotions/Assignments

The Chief of Staff of the Army announced on January 25, 2021 the following Aviation General Officer assignments:



U.S. ARMY PHOTO

BG Thomas R. Drew, Military Deputy, Talent Management Task Force, Office of the Deputy Chief of Staff, G-1, United States Army, Washington, DC to Director, Talent Management Task Force, Office of the Deputy Chief of Staff, G-1, United States Army, Washington, DC.



U.S. ARMY PHOTO

BG William A. Ryan III, Senior Advisor to the Ministry of Defense, United States Forces-Afghanistan, Operation FREEDOM'S SENTINEL, Afghanistan to Chief of Staff, United States Army Central, Shaw Air Force Base, South Carolina.

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.

43 Officers December 3, 2020

Commissioned Officers

- 1LT Rodrigues dos Santos, Guilherme * - DG
- 2LT Meskill, Jordan T. * - HG
- 1LT Staples, Noah D. * - HG
- 1LT Bush, Julia L. *
- CPT Downey, Brian T. *
- 1LT Ellow, Matthew A.
- 1LT Fiorentino, Andrea C.
- 2LT Flores-Ramirez, Leonel J.
- 2LT Mars, Patrick J. *
- 1LT Menkhaus, Patrick J.
- 1LT Myers, Timothy D. *
- 1LT Parker, Phillip D.
- 1LT Plotsky, Jacob E.
- 1LT Polhamus, Nicole F. *
- 1LT Pontius, James E. *
- 2LT Westervelt, Adam M.

Warrant Officers

- WO1 Seoane, Javier - DG
- WO1 Jaillet, Bradley D. + - HG
- WO1 Jones, Jared R. - HG
- WO1 Lesniak, Jacob J. * - HG
- WO1 McElroy, James M. - HG
- WO1 Adkins, Alexander E. *
- WO1 Benedict, Danielle N. *
- WO1 Brown, Logan C. *
- CW2 Doggett, Jeremy E. *
- WO1 Gutzmore, Donald L. *
- WO1 Hardy, Maxwell D.

- WO1 Harriage, Christian S.
- WO1 Iler, Adam D.
- WO1 Longobardi, Aaron J.
- WO1 Maier, Zachary B.
- WO1 Maramba, Abraham John M.
- WO1 Medina, Christopher R.
- WO1 Negrón, Travis A. *
- WO1 Patel, Ashish B.
- WO1 Speck, Jeffrey C.
- WO1 Standke, Odessa

- WO1 Tannehill, Marshall C.
- CW2 Temme, Andrew M.
- WO1 Turner, Christopher P. *
- WO1 Vazquez, Marissa L. *
- WO1 Virrill, William M. *
- WO1 Williams, Maurice L.
- WO1 Xidis, Nicholas P. *

59 Officers December 7, 2020

Commissioned Officers

- 1LT Onaka, Kenji R. * - DG
- 1LT Boyles, Samuel M. * - HG
- 1LT Craig, Hunter D. - HG
- 1LT Norris, Sutton, B. * - HG
- 1LT Sowinski, Monica H. * - HG
- 1LT Beattie, Olivia J.
- 2LT Bowman, Joseph S. *
- 1LT Coppinger, Hunter L. *
- 1LT Fox, Logan M. *



FSXXI Class 21-003-1



FSXXI Class 21-003-2



People On The Move

- 1LT Garza, James A. *
- 2LT Gaspardo, Raymond J. *
- 1LT Guillory, Caleb S. *
- 1LT Kinsey, Megan R. *
- 1LT LaDue, Alexander S. *
- CPT Leinen, Michael B. *
- 1LT Lekowski, Andrew D. *
- 2LT Logan, Mikayla L.
- 1LT Lovell, Gabrielle A. *
- 2LT Paget, Tyler P.
- 1LT Reed, Tanner D. *
- 2LT Ugstad, Marija E.

Warrant Officers

- WO1 Schlangen, Andrew J. - DG
- WO1 Link, Joshua J. * - HG
- WO1 Moore, Jace C. - HG
- WO1 Padilla, Zackery D. - HG
- WO1 Stevenson, Elliot A. - HG
- WO1 Amezcua, Christian
- WO1 Beaudoin, Michael J.
- WO1 Bittner, Chad M.
- WO1 Brooks, Brandon S. *
- WO1 Bulls, Stephen E., II *
- WO1 Cantu, Felipe S.
- WO1 Christian, Jerome L.
- WO1 Collier, Cody A.
- WO1 Dutton, Michael E.
- WO1 Dyer, Blake A. *
- WO1 Ferguson, Tyrel S. *
- WO1 Fitzmaurice, John R. *
- WO1 Folsom, James W., III
- WO1 Godsey, Matthew L.
- WO1 Hammrich, David H., Jr. *
- WO1 Koch, William P. *
- CW2 Kunkle, James B. *



FSXXI Class 21-004-1



FSXXI Class 21-004-2

ALL PHOTOS: U.S. ARMY PHOTO, FORT RUCKER PUBLICATIONS

- WO1 Lasal, Daniel N. *
- WO1 Oder, Samuel W. *
- WO1 Parham, Jonathan J. *
- WO1 Perez Sanchez, Lixander
- WO1 Poynter, Dereck K.
- WO1 Roberts, Evan C.
- WO1 Russo, Nicholas A.

- WO1 Smith, Nicholas A. *
- WO1 Smith, Stephen C. *
- WO1 Stone, Matthew S. *
- WO1 Swanson, Justin R.
- WO1 Vanderslice, Timothy D. *
- WO1 Wallen, David A.
- WO1 Williamson, Austin S.

- WO1 Willis, Ricky A., II
- WO1 Winkler, Gregory W., Jr.
- DG: Distinguished Graduate
- HG: Honor Graduate
- * = AAAA Member
- + = Life Member

ADVANCED INDIVIDUAL TRAINING (AIT) GRADUATIONS

AAAA congratulates the following Army graduates of the indicated 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.

AH-64 Attack Helicopter Repairer (15R)

Class 043-20

- PVT Arnold Xavier Monday * - DG
- PFC Jamaal Boyd
- PFC Tyler Heath Daugherty
- SGT Bridget Rockell Ellis
- PVT Madison Ryan Gillespie
- PV2 Tre Edward Horton
- PV2 Hung Hoa Luu
- PV2 Isaac Lee Salazar

Class 044-20

- PV2 Gabriel Oyebanji * - DG
- SPC Cody Byrd
- SGT Brian Hannon
- SPC Edgar Lucero

- CPL Kevin Perez
- PV2 Eugene Romano
- PFC Jackson Stdon
- PFC Tyler Woods

Class 045-20

- PFC Nathaniel Alley * - DG
- PFC Christopher Bolding
- PVT Blake Coleman
- PFC Alex Giannakopoulos
- PVT Taylor Gindrup
- PVT Bryson Goode
- PFC Alexander Lopez
- PV2 Anthony Montgomery
- PVT James Tanner
- SPC Otis Walker, Jr

Class 046-20

- PVT David Stone * - DG
- SPC Jameson Haskins
- SPC Kevin Litteral
- PVT Joseph Mcmillan
- PVT Jesse Munoz
- PVT Dustin Peloquin
- PVT Waylon Squire
- SPC Evan Taylor
- SPC Tristen Tew
- PVT Adigan Wiebe
- SPC Daris Wright

Class 047-20

- PV2 Nathaniel Douglas * - DG
- PVT Richard Africa
- PV2 Charles Franklin, Jr
- PVT Adam George

- PVT Wyatt Gill
- PV2 Daniel Hermann
- PVT Jacob Johnson
- PVT Xavier Lee
- PVT Vivian Marcellus
- PVT Brieanna Sanchez

Class 048-20

- PVT Gary Watson, II * - DG
- SGT John Kolb
- SPC Pedro Martinezvazquez
- PVT Shane Mates
- PV2 Erik Orozco
- PVT Jayton Perry
- PV2 Robert Rankin

Continued on next page



AAAA

People On The Move

AIT Graduations Continued

PFC Joseph Rea
PFC Tryton Roberts
PVT Jordan Staples
PVT Randy Tarleton

CH-47 Medium Helicopter Repairer (15U)

Class 040-20
PFC Tanner James Brown * - DG
SPC Jared Edward Briggs
PV2 Joseph Michael Grindstaff
SPC Randall Frederick Osterhout
PV2 Raul Jr Telles
SPC Jesus Rafael Veronica
PFC John Michael Vogenauer III
PFC Kevin Marshall Ward
PV2 Tyler Michael Wolfe
SPC Chadwick Stone Woods

Class 041-20

PV2 Tyler Edward Valdez * - DG
SPC Nathaniel Boyce Bearden
PV2 Randell James Collins
PFC Colin Edward Dust
SPC Tyler Greyson Evans
PVT Caden Madak Johansen
PV2 Ryan Alan Kirkwood
PV2 Yuhang Li
PV2 Aries David Mcfadden
PV2 Logan Joseph Sweeney
PFC Yechan Yu

Class 042-20

PFC Michael John Haas * - DG
PFC Blair KJ Chance
PFC Joel Julian Gardner
PV2 Tyler Ryan Garner
PFC Collin Anthony Hartig
PFC Amir J. Chandler Hartsfield
PV2 Taylor Cole Kaiser
PV2 Jeremy Lynn Mcgirt Jr
PV2 Caelin Raines Seelye
PV2 Kalib David Wells
PV2 Ethan David Wilkes
PV2 Tyler Austin Young

Class 043-20

PV2 Killian David Lynn * - DG
PV2 Andrew Louis Lee
PFC Emanuel Moralesvelez
SPC Jack Andrew Nevins
PFC Jarrod Wayne Patterson
PV2 Giovanni Vidal Tenorio
PV2 Wyatt Edward Thar
PFC Spencer Ryan Trail
PV2 Edwin Vazquezavila

PV2 Edwin Kumatu Wornor
Class 044-20
PVT Roy Andre Mavis * - DG
PVT Amir Abdelhadi
SGT Darren Van Bradshaw
PFC Thomas Cole Calhoun
PVT Justin William Dutcher
SGT Steven Timothy Passmore
PFC Alec Everett Paul
PFC Conner Michael Shoup
PVT Mateusz Stanislaw Wojdyła

UH-60 Helicopter Repairer (15T)

Class 85-20

SPC Zachary E. Bremer * - DG
PFC Ryan Morgan Agnes
PFC Chase Ryan Armstrong
PV2 Marcus James Beard
PFC Zackary Dalton Cochran
PV2 David Diazvasco
PFC Ethan Joel Erwin
PV2 Isaac Scott Evans
CPT Gints Mucenieks
2LT Emils Henrijs Taube

Class 086-20

PV2 Alexander H. Lattimore * - DG
PFC Tanner Cristian Jones
PV2 Michael Peyton Lasley
PV2 Gavin Paul Morvant
PV2 Kaden Dean Pearson
PV2 Afton Ben Jeremiah Pospisil
PV2 Landon Andrew Rogers
SPC Robert Louis Salvina

Class 087-20

PFC Clifford T. Axtell Jr * - DG
SPC Chavez Pedro Avalos
SGT Francis Kipkorir Busieney
PFC Adam Jacob Curtis
PFC Samuel Glen Damron
SGT Jeremy Joseph Hinojosa
SPC Jeremy Byron Jernigan
PFC Kaly Aneese Ramirez
SPC Brogan Mae Schaeffer
SPC Michael David Teeter
SGT Trenton Wayne Thompson

Class 088-20

PFC Aaron R. Vazquez * - DG
PV2 Jaden Alan Droegmiller
SPC Ryan James Feidt
PFC Dmitry A. Gardner
PFC Gabriel C. Gonzales
PV2 Benjamin Alan Horrocks
PFC Aaron Lewis Mckain
PFC Joseph Michael Moran

PV2 Christopher Lamont Nichols
PV2 Derick Braden Rice
PV2 Michael Wayne Sutton
Class 089-20

PFC Jacob Michael Voiselle * - DG
PFC Nathaniel Weil Adams
PFC Madison Ilene Albers
PFC Jaden Glendaniel Albrant
PFC Mason Glen Boyd
PFC Ashton Clay Gibson
SPC Dylan Lee Johnson
SPC Ronnie Junior Rabon
PV2 Blake Edward Robinson
PV2 Jason Adam Vanhouten
PFC Sam Alexander Wilson

Class 090-20

PFC Benjamin M. Wadley * - DG
PFC Joseph Alexander Collins
PFC Donovan Terrell Good
PFC Carson Taylor Hobin
PV2 Shaun Eric Huggins
PV2 Ethan Phillip Jordan
PFC Ethan Lee Nelson
PVT Logan Connor Nevins
PFC Giovanni Robles Flores
PV2 Alexander Michael Scovill
PVT Kyler Devin Wilkins

Class 091-20

PV2 Jayden Tyler Dassen * - DG
PV2 Jordan Savon Colvin
PFC Austin Daniel Crocker
PV2 Talon James Demers
PFC Ace B Davis Galloway
PV2 Aiden Skylar Scott Goddard
PFC Quinton Charles Goff
PVT Diego Armando Jojola
PV2 Matthew David Martens
PFC Michael Dharam Ramrup
PFC Lloyd Lamont Strong Jr

Class 092-20

PV2 Kaden M. Strate * - DG
SPC Christopher Lee Ashworth
SGT William R. Dewberry Jr
SGT John Lee Mackie II
PV2 Robert Dale Ramsey
SGT Colton Ray Scantlen
SPC Colton Thomas Selmon
PFC Wesley Evan Smith
SPC Walter Ottis Teepe III
SGT Alex Vera

Class 093-20

PFC Rachael L. Johnson * - DG
PFC Andrew Mitchell Bates
PFC Vance Hollis Bryan
PFC Elise Ann Colburn

PV2 Michael Kenneth Guidice
CPL Jakub Kapa
PFC Henri Robert Lavoie
PFC Samanta L. Rodriguez
PVT Bradyn Jay Mcpherson
PV2 Jeremiah Wade Morris
PFC Nancy Mugun

Class 094-20

PFC Logan T. Schiermeyer * - DG
SPC David Hans Atwell
PV2 Micole Gaibriel Cabanlit
PFC Rylan Kane Fitzgerald
PFC Zachary Lee Hulin
PFC Tijavon Delshaun Jones
SPC Robert Lee Lowery
SPC Cody James Matlock
SGT Eleazer Mendoza Berber
PFC Jonathan Rios
PVT Darin Lee Weaver

Aircraft Powerplant Repairer (15B)

Class 016-20

PV2 Jacob Allen Mccall * - DG
PVT Jeffrey Ivanpat Belden
PVT Alexander Michael Carr
PV2 Dante Lee Dodge
PVT Hayden Lee Eastwood
PV2 Ty Hampton Obrien

Aircraft Electrician (15F)

Class 023-20

SPC Ricky Kt Ahlopinera * - DG
SGT Omar Eid A. Alharbi
SFC Ahmed Radhi M. Alonazi
PV2 Andre Derrick Brooks
PV2 Nathaniel Lee Campbell
PV2 Jonathan Adam Chapa
SPC Caitlin Christin Garretson
PV2 Jonathan Ames-Christian Hahn

Class 024-20

PV2 Ronald S. Javier * - DG
PFC Andres Martinez
PFC Justin Dave Nelson
SPC Ahmad Raza
SGT Kenneth Lee Ventress
SPC Chad Elmo Waagen
PFC Nathan Jahad Wright

Aircraft Pnedraulics Repairer (15H)

Class 016-20

PVT Andre Bernard Dalia * - DG
PFC Keaton James Derouchie
PVT Jamie Lee Dorris

People On The Move

Class 018-20

PFC William J. Cannon * - DG
 PV2 Asaad Ahmed
 SPC Emmanuel Kyei Baffour
 PV2 Mathew Cole Gordon
 PVT Hudson William Hart
 PVT Brandon Lee Riggs

Aircraft Structural Repairer (15G)

Class 013-20

PFC Colby Ryan Dale * - DG
 SFC Bassam A. H. Al Shamari
 PV2 Kyle Austin Boddy
 PVT Cameron Elliot Brandenburg
 PVT Ethan William Floyd
 PFC Demetri Allen Hollander
 PVT Mario Eduardo Huerta
 PVT William Anthony Morris, II

Avionic Repairer (15N)

Class 022-20

SPC James D. Jenney * - DG
 PV2 Oscar Felipe Perezbenitez
 PVT Maverick Walker Shircliff
 PFC Alyssa Jo Thrower
 PV2 Megan Nicole Velez
 PVT Nicholas Scott Wilson

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

Class 021-20

PV2 Crystal Talford * - DG
 PV2 Thomas Dickenson
 PV2 Kielandre Fadul
 PV2 Joseph Harrisons, Jr.
 PV2 Kayla Hunter
 SPC Joshua Lindsey
 PV2 Cristian Mataanduray
 PV2 Sawyer Strickland
 PV2 Abdulazeez Syed
 PV2 Collin Walsh

Class 022-20

PV2 Tyrone Somerville * - DG
 PV2 Marcos Mauries
 PV2 Parker Mote
 PV2 Daniel Mulder
 PV2 Skylar Prudhomme
 PV2 Francisco Ronces
 PV2 Nicholas Schroeder
 PV2 Jeffrey Shaffer
 PV2 Robert Sinsel
 PV2 Matthew Tillett
 PV2 Alex Voyles

- DG: Distinguished Graduate
 - HG: Honor Graduate
 * = AAAA Member
 + = Life 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.

Grey Eagle UAS Repairer Course

19 Graduates, 16 December 2020

SSG Hugo Galvanvaladez
 SGT Peter T. Waldeck Jr
 SPC Nathan C. Cochell
 SPC Daisy M. Delgado
 SPC Kristian A. Milke *
 SPC Joseph M. Rape
 PV2 Eredin Chairez
 PV2 Spence A. Fields
 PV2 Randy J. Wallace Jr
 PVT Logan W. Hutchins
 PVT William E. Oaks
 PVT Blake M. Michael
 PVT Chase V. Benjamin
 PVT Samuel T. Howell
 PVT Brandon A. Cortez
 PVT Jarod H. Bubier
 PVT Hunter F. Fellin
 PVT Hunter E. Thomas
 PVT Alekzander J. Goodman

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

22 Graduates, 24 November 2020

SPC Hali S. Siegert -DG
 PFC David W. Wernsman -HG
 SGT Easton Jasmund
 SGT Dustin Minard

SPC Terry V. Palmer
 PFC John W. Fuller
 PFC Jarde L. Hill
 PFC Alejandro Martinez
 PFC Brett A. Sanders
 PFC Kayla R. Shareef
 PFC Graciana M. Zara
 PV2 Celeste Avitia
 PV2 Michael C. Byrd
 PV2 Christian I. Cole
 PV2 Josiah C. Cruickshank
 PV2 Cole B. Dorr
 PV2 Drew A. Kinnin
 PV2 Joseph C. Mccomas
 PV2 Nathan R. Scott
 PV2 Mark A. Strack
 PV2 Brandon C. Tarbox
 PV2 Henry W. Wilson

21 Graduates, 15 December 2020

PFC Benjamin C. Johnston -DG
 PVT Isaiah S. Sanchez -HG
 SPC Alexander B. Daniels
 SPC Zachary D. Ruthven
 SPC Clifton C. Roberson
 PFC Damien C. Daigle
 PFC Ashton L. Darley
 PFC Jacob H. Logan
 PFC Alexander T. Moore
 PFC John D. Shell
 PV2 Kinley N. Millsap
 PV2 Madison R. Mires
 PV2 Colton J. Pyle
 PVT Matthew J. Calwonsen
 PVT Dean S. Cook
 PVT Meyer W. Sikes
 PVT Dylan L. Smith
 PVT Rashad J. Smith
 PVT Isiah I. Thurmanbey
 PVT Ricardo R. Young
 PVT Elijah D. Williams

Grey Eagle UAS Operator Course

32 Graduates, 24 November 2020

SPC Thomas M. Carello -DG
 PFC Cordell C. Bowser -HG
 SPC Sean B. Hall
 SPC Zachary K. Wagner
 PFC Garrett A. Ball
 PFC Eduardo M. Delagarza
 PFC Giancarlo S. Donate
 PFC Amber L. Ledbetter
 PFC Carolina Lopez Romo
 PFC Shawn A. McGill
 PFC Paulis K. Ramos
 PV2 Dariel Y. Alvarado Vazquez
 PV2 Austin T. Barnaba
 PV2 Anthony J. Brub
 PV2 Tyler D. Clark
 PV2 Tyler J. Cline
 PV2 Parker J. Coppedge
 PV2 Noe T. Franco
 PV2 Cole A. Geissinger
 PV2 Austin J. Gorkiewicz
 PV2 Leonard A. Gutierrez
 PV2 Jason C. Henson
 PV2 Tarrell S. Hoch
 PV2 Jesse F. Holmes
 PV2 Brandon S. Howe
 PV2 Joshua Johnson-Rochelle
 PV2 Kaiden L. Jones
 PV2 Henry E. Kewer
 PV2 Max W. Lueck
 PV2 Ruben A. Mendoza
 PV2 Hailey K. Moore
 PV2 Herwin D. Parker

DG - Distinguished Graduate
 HG - Honor Graduate

* = AAAA Member
 + = Life Member

UPCOMING EVENTS

MARCH 2021

11-12 32nd Annual Women in Aviation International Conference (Virtual)
 16-18 AUSA Global Force Next (Virtual)

APRIL 2021

21-23 AAAA Army Aviation Mission Solutions Summit, Nashville, TN

Art's Attic

By Mark Albertson



Art's Attic is a look back each issue at 25 and 50 years ago to see what was going on in ARMY AVIATION Magazine. Contributing editor Mark Albertson has selected a few key items from each decade's issues. Art Kesten is our founder and first publisher from 1953 to 1987. He is also the founder of the AAAA in 1957 and served as its Executive Vice President. The cartoon, right, was created 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 February 26, 1996

Briefings

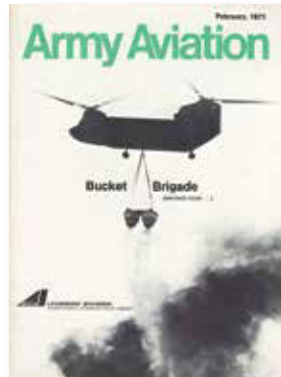
According to Fort Rucker's December 1995 Army Aviation Warfighting Bulletin, Army Aviation's participation in Advanced Warfighting Experiments (AWEs) during FY 95 provided lessons learned which will be incorporated in continuing efforts toward Force XXI. Among these lessons are that ARI is about right, digitization efforts are on track, and that core programs are effective. Army Aviation will participate in the following experiments in FY 96: Survivable Armed Reconnaissance on the Digital Battlefield (SARDB); Prairie Warrior 96; Intrepid Vision Battle Lab Experiment; and the Brigade Task Force XXI AWE. Point of contact is, Major Carter, DSN 558-9731.

corporated in continuing efforts toward Force XXI. Among these lessons are that ARI is about right, digitization efforts are on track, and that core programs are effective. Army Aviation will participate in the following experiments in FY 96: Survivable Armed Reconnaissance on the Digital Battlefield (SARDB); Prairie Warrior 96; Intrepid Vision Battle Lab Experiment; and the Brigade Task Force XXI AWE. Point of contact is, Major Carter, DSN 558-9731.



30th Anniversary of "The Originals"

A special event celebrating the 30th anniversary of the founding and activation of the 1st Aviation Brigade will be held in conjunction with the activities of the 1996 AAAA Annual Convention. All current and former members of the Brigade are welcome. The event will be held in the Radisson Plaza Hotel on Wednesday, 27 March at 9 p.m., immediately following the Early Birds Reception. Attendance is open to all, however advanced notification of intent to attend is required to ensure that adequate space and facilities are available. Contact Dwight Lorenz at Phone/FAX, 802-442-3280. A nominal charge will be collected at the door.



50 Years Ago February 15, 1971

Learning Center First

Captain Ahmed Hussein, an Allied military student from Ethiopia, was the first such candidate to enroll in the new Learning Center at Fort Rucker, Alabama, upon its opening last month. Cap-

tain Hussein will receive four months of fixed wing instrument training at the Army Aviation School. At the Learning Center, he is shown using a teaching aid that reproduces an aircraft's instruments components. The Learning Center approach, used extensively at the Army Flight Training Center at Hunter AAF, includes in-depth audio-visual equipment, ample learning aids, voluntary self-help by the students on an after-hours basis and, stand-by, ready-to-assist personnel.



Sling Demonstration

Bell Helicopter's new HueyPlus recently demonstrated its load-lifting capability at Fort Rucker, Alabama. One such demonstration was shuttling a 105 mm howitzer with a sling. Bell's company pilot took military personnel on numerous flights, including Major General Allen M. Burdett, Jr., USAAVNS and Fort Rucker Commanding General.



New Master Aviator

Chief Warrant Officer, Quincy A. Bearden, who has logged some 8,000 hours, is the latest addition to that exclusive club, Master Aviator. His Master Army Aviator Wings joins his Bronze Star, 27 Air Medals and three Army Commendation Medals. CW4 Bearden is assigned to the 65th Company at the U.S. Army Aviation Center.





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 2022 induction is June 1, 2021

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

Army Aviation Hall of Fame

Chief Warrant Officer Four Johnnie R. Sandidge

*Army Aviation Hall of Fame 1977 Induction –
Fort Rucker, AL*



CW4 Johnnie R. Sandidge earned his Army aviator wings in February 1956. He then received a transition into the CH-21 Shawnee helicopter and about a year later received his designation as a rated instructor pilot in the aircraft. Sandidge served in that capacity, as well as being a standardization pilot, with units of the Sixth Army in California and the Eighth Army in Korea.

In September 1962, he arrived at Fort Hood, Texas, as the aircraft direct support maintenance officer for the 1st Armored Division, supervising 150 mechanics and providing support for the division's 103 aircraft.

From June 1966 to August 1967, Sandidge served in Vietnam as the section leader of the 1st Cavalry Division's aircraft direct support maintenance section. When he returned to the states, Sandidge joined the 64th Artillery Group of the Army Air Defense Command in Dallas, Texas, and conducted depot maintenance training for an engine and power train platoon.

After a year there, Sandidge was assigned to the Corpus Christi floating maintenance depot anchored off the coast of Vietnam.

When he completed that tour, he attended the warrant officer advance course at Fort Rucker, AL, and was then sent to Fort Hood as aircraft DS maintenance officer for a 1st Cavalry Division squadron.

Sandidge retired from active duty in February 1977 at Fort Hood.

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ALL OF THEM.



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