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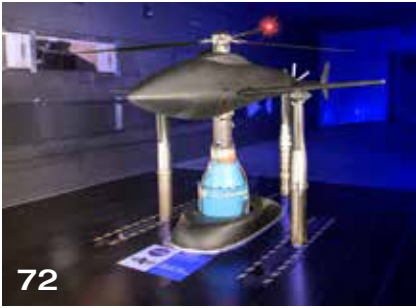
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On The Cover

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Miller Tapped as Acting SECDEF



DOB PHOTO

President Donald Trump announced the appointment of Christopher C. Miller as acting Secretary of Defense on Nov. 9, 2020 via Twitter and simultaneously terminated Mark Esper as the 27th SECDEF. Earlier this year, Miller Performed the Duties of the Assistant Secretary of Defense (ASD) for Special Operations/Low Intensity Conflict. A retired Army officer, he began his military career as an enlisted Infantryman in the Army Reserve in 1983 and also served in the District of Columbia National Guard as a Military Policeman. In 1993, he transferred to Special Forces and served in numerous command and staff positions within the 5th Special Forces Group (Airborne).

Cavoli Takes Over New USAREUR-AF

GEN Christopher Cavoli has taken command of the newly merged Europe and Africa commands according to a Nov. 20 statement. The new command is called U.S. Army Europe and Africa, or USAREUR-AF. All units assigned to U.S. Army Africa will be reassigned to USAREUR-AF. As part of the reorganization, U.S. Army Africa/Southern European Task Force is now U.S. Army Southern European Task Force, Africa or SETAF-AF with responsibility for Army operations and assets in Africa and Italy.



U.S. ARMY EUROPE PHOTO BY MARKUS RAUCHENBERGER

V Corps Activated in Poland



GOVERNMENT OF POLAND PHOTO

The U.S. Army formally activated V Corps forward headquarters in Poznan, Poland, on Nov. 20, 2020. Approximately 200 troops will initially be assigned to the forward position of the recently reactivated V Corps

headquarters at Fort Knox, KY. The unit will be responsible for command and control of assigned and rotational units of U.S. Army Europe and U.S. European Command. Full rotations are expected to start in 2021.

McClain Presented Rare Army Astronaut Device



NASA PHOTO BY RONALD BAILEY/NASA

U.S. Army astronaut LTC Anne C. McClain talks with GEN James H. Dickinson, commander, U.S. Space Command, at the Space Vehicle Mockup Facility at Johnson Space Center in Houston, TX, Nov. 10, 2020. During his visit, Dickinson presented the Army Astronaut Device, to McClain in recognition of her 204 days in space aboard the International Space Station as a flight engineer for NASA Expeditions 58/59 from December 2018 to June 2019. McClain is currently the only active duty Soldier who has been presented the device, considered the rarest qualification device any Army Soldier can receive. During her spaceflight she contributed to hundreds of experiments in biology, biotechnology, physical science, and Earth science. She also conducted two spacewalks totaling more than 13 hours. A graduate of the U.S. Military Academy at West Point in 2002, the OH-58D Kiowa Warrior pilot and combat veteran has more than 2,000 flight hours in 20 different aircraft.

Enlisted Temp Promotion Policy Expanded

Soldiers deployed to combat or who are pregnant will be able to temporarily promote to the ranks of sergeant through sergeant major before completing the mandatory professional military education courses under an expanded policy that starts Jan. 1. The policy applies to active duty and reserve soldiers who cannot complete PME, but who are otherwise fully qualified for promotion, including those deployed on a named operation in a hostile fire area or serving on temporary profile due to pregnancy or postpartum. Soldiers still have to complete any prerequisite PME courses to keep their temporary rank, though they have one year from redeployment if they were in a combat zone to do so, or a maximum of two years if they were pregnant.



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On the Move!

As I begin writing this “Cockpit” for our December issue of ARMY AVIATION, we have reluctantly just made the decision to cancel our Joseph P. Cribbins Symposium scheduled January 20-22, 2021 in Huntsville, Alabama.

After consulting with our medical experts as well as Army Aviation Branch Chief MG Dave Francis, Bill Harris and I decided we could not safely hold a high-quality event that the Army, our members, and industry would find matched the quality of previous AAAAA events. So now we focus on our Army Aviation Mission Solutions Summit April 21-23 at Opryland, Nashville, TN!

These are indeed challenging times, and yet I have been incredibly impressed by our Army's ability to continue to support operations around the world as well as provide incredible domestic support. As we celebrate our National Guard's 384th birthday – yes, its older than our Army – we have two great articles from current and former Army National Guard leaders that highlight how our National Guard continues to operate abroad, train, and support our states and territories.

Soon to retire BG J. Ray Davis, former chief of the Aviation and Safety Division and the National Guard Assistant Director for Aviation and Information Warfare, and our very own AAAAA Vice President of NG and Reserves, MG Lester D. Eisner, have provided these outstanding contributions that I know you will appreciate. We wish BG Davis a fond farewell after serving Army Aviation so well and making a real impact on our enterprise for so many years. By the

time you read this he will have received the Gold Order of Saint Michael in recognition of his amazing service.

I also especially invite you all to read MG Eisner's revealing piece on page 88 about the challenges of operating, training, and support during this pandemic. It's interesting indeed.

In this issue we also highlight our industry members and have included our annual industry directory. Let me take the opportunity to thank all our industry partners for their role in keeping America, our Army, and Army Aviation strong, relevant, and highly capable – anywhere and anytime.

Our Branch Chief, MG Dave Francis, highlights just why a strong industry is needed as he lays out Army Aviation modernization priorities. In addition, PEO Aviation BG Rob Barrie's article sets out PEO Aviation's way ahead to support the following priorities: build the Future Vertical Lift ecosystem (FARA, FLRAA, FUAS, & MOSA); maintain the readiness and relevance of the enduring Army Aviation fleet; and build partner nation capacity.

Our job here at AAAAA is to help our Branch Chief and PEO and indeed the entire Army Aviation leadership including our senior enlisted and warrant officers to get their messages out to the full Army Aviation Community from Active Duty and Reserve Component, to Retired,

industry and the civilian workforce. But it is not just our senior leaders that we are all about at AAAAA.

At our recent semi-annual National Executive Board meeting held via ZOOM webinar a few weeks ago we welcomed newly appointed NEB member at large WO1 Aubrey Bloom who joins 1LT Chance Mathias, and SGT Ashley Sanchez at the most senior levels of the AAAAA in order to represent our junior warrant officer, company grade officer levels, as well as the sergeant level. They along with a group of like-minded junior personnel are already “getting after it,” working with our own AAAAA Laura Arena and Chelsea Jarvis, as well as VP for Membership CW4 Becki Chambers. You will be hearing more and more from them in the future!

Finally, I would like to congratulate MG Jami Shawley, former commanding general of the Army Reserve Aviation Command, on her promotion and new position as Commanding General, 81st Readiness Division, Fort Jackson, SC!

As you can see, from all ranks, components, and levels of responsibility, AAAAA Army Aviation personnel are on the move! We at AAAAA are always working to remain relevant to our membership and our branch despite the COVID pandemic restrictions.

Stay healthy! I pledge to ensure that AAAAA does its part to help YOU... all our Soldiers and Families and indeed all our AAAAA members. You are what AAAAA is all about.

Best wishes to all for Happy Holidays and a great New Year!

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

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Modernization Priorities

By MG David J. Francis



U.S. ARMY PHOTO BY MAJ. JEFFREY SUNGER, 160TH SQR(A)

Large Scale Combat Operations (LSCO) significantly increase the demand for the enduring, first order capabilities of Army Aviation; ‘See’ (reconnaissance and security), ‘Move’ (air assault, air movement and aeromedical evacuation), and ‘Strike’ (close support and interdiction).

The ability to successfully employ Army Aviation against near-peer adversaries hinges on the ability to improve its reach, survivability, lethality, and sustainment in order to provide these fundamental capabilities to the Army in the future operational environment.

To maintain or regain overmatch with the threat, both technically and tactically/operationally/strategically, it is critical that we keep modernization priorities aligned with the rest of the force in order to avoid the creation of gaps across capability sets.

MG David Francis, commanding general of the Army Aviation Center of Excellence (in aircraft right seat) adjusts his helmet in preparation for a flight demonstration of the Degraded Visual Environment Pilotage System (DVEPS) by CW5 Adam Jarvis of the Systems Integration and Management Office, U.S. Army Special Operations Aviation Command at Fort Campbell, KY, November 16, 2020.

Army Aviation is a fundamental part of the Combined Arms Team and this is reflected in the fact that Aviation continues to remain in the top tier of the Army's overall modernization strategy. To support this strategy, the Aviation Enterprise has laid out a road



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map that provides the Army the capabilities they require to meet the Multi-Domain Operations (MDO) Way Point 2028, Aim Point 2035 and beyond.

These capabilities are formed around the Future Attack Reconnaissance Aircraft (FARA), the Future Long Range Assault Aircraft (FLRAA), Future Tactical Unmanned Aircraft Systems (FTUAS), and the Modular Open Systems Architecture (MOSA).

Future Attack Reconnaissance Aircraft (FARA)

The first priority is the Future Attack Reconnaissance Aircraft (FARA) which fills a critical Army gap for reconnaissance. This calls for a light attack reconnaissance aircraft with significantly increased reach (speed, range, & endurance), lethality, and survivability.

This scout replacement will serve as the focal point of the FARA Ecosystem, inclusive of employing Long Range Precision Munitions (LRPM) and Air Launched Effects (ALE) critical to the Penetration and Dis-integration phases of Multi-Domain Operations (MDO) making the lower tier of the Air Domain decisive.

Future Long Range Assault Aircraft (FLRAA)

The Future Long Range Assault Aircraft (FLRAA) continues to leverage the highly successful Joint Multi-Role Technology Demonstrator (JMR-TD) program to drive the innovative development of a replacement for the UH-60 with increased speed, range, payload, and endurance.

This is critical to the Exploitation phase of MDO.

Not only will FLRAA have significantly more capability in the Assault and MEDEVAC mission sets with its extended reach, it will also bring a measure of lethality with the ability to employ ALE.

Future Tactical Unmanned Aircraft Systems (FTUAS)

The Future Tactical Unmanned Aircraft Systems (FTUAS) provide revolutionary advances in maneuverability, agility, lethality, reach, and survivability. It will replace the Shadow UAS in Brigade Combat Teams with an expeditionary system that can fight on the move with ground units. Able to conduct point landing and take-offs, it requires no runway and is rapidly deployable. The crew and equipment are transportable by CH-47 and can conduct 24 hour continuous operations for 96 hours with interchangeable payloads.

Modular Open Systems Architecture (MOSA)

Fundamental to the entire modernization plan is the Modular Open Systems Architecture (MOSA). The ability to rapidly respond to threat driven environmental changes across both air and ground fleets has been a challenge based on proprietary operating systems. MOSA provides revolutionary advances in system architecture, facilitating rapid changes to digitally-enabled capabilities needed to operate in a highly contested battlefield. It provides an increased ability to rapidly and affordably evolve aircraft avionics and



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mission equipment through an “in skin” open system architecture with government defined standards facilitating a quicker response to threat based environmental changes.

Targeted Modernization

As in any change of this magnitude, the modernization of the aviation fleets will be phased over time. In order to maintain the capabilities the Army require as FARA and FLARA are fielded, a targeted modernization of our current aircraft fleet will take place to carefully balance the overall capability of the force.

Degraded Visual Environment (DVE) / Degraded Visual Environment Pilotage System (DVEPS)

Ground forces can't be constrained by aviation – we have to be able to cross the Line of Departure when they do... or before. While we have made significant inroads to owning the night, especially with the arrival of white phosphor NVGs, there are still a number of physical conditions we cannot operate in. Not including night, there are ten different environments (eight ambient or artificial and two aircraft-induced) that we still must address.

To that end, we are working closely with USASOAC on their successful development of the Degraded Visual Environment Pilotage System (DVEPS). This is a directed requirement (DR) system that provides situational awareness during takeoff and landing in DVE using a forward looking, multi-sensor fused image to assist in hazard avoidance. We are working towards an Environment Exploitation System

(EES) Program of Record (POR) to further exploit our ability to operate in MDO.

Project Convergence

Army Futures Command is constantly measuring our current capabilities against an unknown-future threat, and Project Convergence is how they are doing that. They have leveraged one of the tenets of MDO – convergence (the ability to integrate effects across all domains to decisively overmatch any adversary) as the measuring stick for this process.

Army Aviation is bringing emerging technologies, such as ALE, LRPM, and UAS, into this operational environment and we are learning the most effective locations to employ our capabilities and how to organize them for combat in MDO.

Our modernization priorities are aligned in order for Aviation to enable the Army mission; deploy, fight and win our nation's wars by providing ready, prompt and sustained land dominance by Army forces across the full spectrum of conflict as part of the joint force. With the rise of near peer adversaries, we have to field modernized platforms and systems that enable us to maintain our overmatch with the threat. Simultaneously, we must selectively employ targeted modernization of our current fleet which will be part of our capability set with FARA and FLRAA for years to come.

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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PEO, Aviation – Message to the Field

By BG Robert L. Barrie

I am honored and humbled for the opportunity to lead the great team at Program Executive Office, Aviation. We have embraced the challenges we are all facing during the pandemic and continue to focus on delivering capability to our Soldiers and aircrews.

Our future plans build on the great legacy of our predecessors and seek to posture the PEO for the future. We recognize our team must evolve to ensure future Army Aviators can continue to rely on overmatch capabilities against potential adversaries. This article restates our mission and objectives, and describes the initiatives we have underway to sustain our legacy of Excellence in the future.

Unchanged in the PEO is the culture that recognizes the unyielding importance of delivering on our commitments to the Aviation Enterprise. Despite the challenges we all face, I remain confident and optimistic about the future of Army Aviation.

As we face these challenges, and craft our path forward, the PEO mission remains clear: Serve Soldiers and our Nation by designing, developing, delivering and supporting advanced aviation capabilities for operational commanders and our allies.

We are careful to always highlight that our successful mission accomplishment requires the combined effort of the entire Aviation Enterprise. Teamwork and collaboration are essential ingredients for our collective success. We are fortunate to serve with teammates responsible for the requirements, resourcing, science and technology, and sustainment towards realizing this shared purpose. We remain steadfastly committed to coordinating and executing our mission as part of the larger team.

Objectives

Our organizational objectives in support of our mission are nested within the National Defense Strategy and guided by the Army's planned modernization strategy. Our focus is clear, and we will execute simultaneously across three primary objectives as we deliver capability for our Soldiers:

1 - Build the Future Vertical Lift Ecosystem (FARA, FLRAA, FUAS, & MOSA)

2 - Maintain the Readiness and Relevance of the Enduring Aviation Fleet

3 - Build Partner Nation Capacity

These three objectives are shared across each of the ten project management offices in the PEO. Although the energy applied to each objective may differ between offices, each office plays a role in collectively advancing all three objectives across the organization. The development of the Future Vertical Lift Ecosystem remains Army Aviation's highest priority. The team is directly aligned with the FVL Cross Functional Team in the integration and development of these priority programs. While executing our future modernization imperatives, the Army must also maintain the readiness and relevance of the enduring aviation fleet. Accomplishing these two objectives in parallel requires a careful and continuous balance of resources

across the Aviation Enterprise. Our third objective seeks to deliver Army Aviation capability to our allies world-wide in order to increase interoperability and build capacity to respond to shared challenges.

A unifying concept that bridges all three objectives is the adoption of open system approaches in the development of both our future and enduring capabilities. We continue executing an aggressive plan requiring an open systems approach in the development of our future fleet, and to identify specific actions that transform our current platform architectures and interfaces into a modular, open systems framework. Success in these efforts is required to ensure our future and enduring fleets are affordable, sustainable and upgradeable. Our goal across the portfolio is to invest in capability once, and leverage applications across the fleet.

Lines of Effort

To enable the accomplishment of our objectives more fully and realize the cross-cutting capability of open system approaches, we have five lines of effort that are managed and tracked inside the organization. Each has goals, enabling strategies, initiatives, and metrics. The lines of effort are designed to enable our project management offices to execute our objectives:

1 - Human Capital

2 - Portfolio Management

3 - Business Transformation

4 - Digital Ecosystem

5 - Product Support Modernization

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we will continue to build the bench of military and civilian personnel so we have the required leadership skills, acquisition management acumen, and functional expertise in the future. From recruitment, training, retention, and career development, the PEO will function as an integrated workforce with new automated tools and analytics to streamline hiring processes, onboarding, and management of interns.

The **Portfolio Management** initiative will advance the execution of our mission from an integrated aviation portfolio perspective that delivers full Combat Aviation Brigade warfighting solutions. With this intentional focus, we avoid single, stove-piped solutions that do not optimize the investments across our portfolio. Our G-5 will align and integrate these capabilities across the aviation portfolio. We will have a regular battle rhythm of communication across the Aviation Enterprise that tightly synchronizes requirements and materiel solutions that leverage modular open systems and commonality while still achieving desired effectiveness.

Our **Business Transformation** initiative will increase the effectiveness

and efficiency of our business operating system. The efforts include automating manual business processes to enable collective use of an integrated, aligned data structure and environment. This initiative will also consider our recent transition to a distributed workforce and further develop the tools and processes required to optimize the new work environment and process flows.

Similar to the business transformation, the **Digital Ecosystem** initiative guides us away from paper-based to digital engineering development environments. Modern design environments like model based system engineering will be deployed to provide our technical staff the latest in design tools and methodologies in order to generate greater efficiencies throughout the product lifecycle.

Finally, the **Product Support Modernization** initiative will baseline our current methods of fleet management and identify actions that converge our processes inside the PEO and optimize our methods. This baseline incorporates a new look at data engineering and ensures seamless integration with the Army Materiel Command, U.S.

Army Aviation and Missile Command and HQDA G-4. This initiative seeks to develop a framework that achieves an aviation data architecture supported by artificial intelligence and machine learning algorithms that enhance product reliability and maintenance capabilities.

I promise future updates will include a greater focus on the rotorcraft and weapon systems we are developing, but I wanted to share some of the initiatives we are pursuing to ensure we can continue to deliver on our commitments. The reality is our continuing pursuit of these initiatives is essential for us to achieve our organizational objectives. PEO Aviation has a proud legacy, and we look forward to continuing to evolve to meet your future requirements. We are immensely proud and honored to serve with you all and look forward to seeing you soon.

Giddyup!

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

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Program Executive Office Aviation – New Norms for Mission Execution

By CW5 Travis Dixon



U.S. ARMY PHOTO BY CPT JOSHUA HUGHES, 1-229 ARB

As with the rest of the nation, Program Executive Office Aviation has been challenged by the impact of COVID -19 across our operations.

The PEO, BG Rob Barrie, responded to the rapidly changing environment and implemented the measures necessary for safe and effective operations in support of our mission to serve Soldiers and our Nation.

While pandemic related constraints have not kept the PEO from continuing to execute its mission, they have impacted the manner in which we get it done. Even as the pandemic holds the nation in its grasp, PEO Aviation successfully continues to design, development, deliver and support advanced aviation capabilities for operational commanders and our allies. One of these successes involves the AH-64E V6.

Apache V6

The Apache V6 is one of PEO Aviation's efforts supporting Army readiness and modernization. Despite challenges associated with the pandemic, PEO Aviation's Apache Attack Helicopter Project Management Office (PM Apache)

Pilots from the 1-229th Attack Reconnaissance Battalion, stationed at Joint Base Lewis-McChord, WA, train on the newest version of the Apache AH-64 helicopter as part of the certification process to fly the version 6 Apache aircraft.

leveraged the team's unique structure, talents, and culture to set the stage to deliver the newest and most lethal version of the Apache helicopter into the hands of Soldiers.

The PM Apache New Equipment Training Team conducted NET training on the Apache V6 for the 1-229th Attack Reconnaissance Battalion (the Tigersharks) at Joint Base Lewis-McChord (JBLM), WA. The Tigersharks' first 10 aviators graduated from NET on July 24 and two more classes were conducted to complete the NET.

In order to facilitate the training, PM Apache sent four former AH-64E V6 test aircraft to JBLM. These aircraft were upgraded to V6 from a V4 configuration in order to perform required testing and evaluation. The 1-229th is scheduled to receive 24 AH-64E V6 Apaches by March 2021. The new version of the Apache helicopter will provide the Bayonet Division and I Corps with a more lethal, intelligent, and survivable platform. It includes sensor suite upgrades that provide increased range and lethality, improves tactical navigation and a Cognitive Decision Aiding System to assist in maneuvering to the target and destroying it.

ITEP

Another PEO Aviation program that adapted to the pandemic in order to prepare Army Aviation for Multi-Domain Operations is the Improved Turbine Engine Program (ITEP). The T901 ITE is a next generation 3,000 Shaft Horsepower class turbine engine able to provide world-wide operational performance. It will replace the current T700 engine within the Black Hawk and Apache fleets. The ITE provides more power with greater fuel efficiency and it is designed to fit in the current engine bays at a similar weight. It will also serve as the engine for the Future Attack Reconnaissance Aircraft (FARA) – Army Aviation’s #1 modernization priority.

The ITEP successfully achieved its latest major milestone, the Critical Design Review (CDR) utilizing a completely virtual environment. The CDR consisted of several critical design reviews of subsystems and concluded with an overall review. The process was completed while implementing COVID-19 protocols and maximizing the use of Video Conferencing. The ITE Product Office hosted VTCs for hundreds of stakeholders beginning in late May with the Engine Control System Components CDR and finished with the capstone Engine System CDR in late July.

This postures ITEP to execute the First Engine To Test (FETT) no later than the fourth quarter of FY21. FETT will kick-off the testing required to complete the Preliminary Flight Rating which is crucial to enable the FARA Competitive Prototypes (FARA CP) to conduct their first flights and initiate the Apache and Black Hawk Developmental Testing. As a critical component to the FARA CP first flight and the Apache and Black Hawk modernization strategy, ITEP is maintaining accelerated targets to ensure alignment with the FARA timeline.

ACN

In another COVID era success, the Aviation Ground Support Equipment Product Office, of PM Aviation Mission Systems Architecture, completed fielding of the Aircraft Notebook (ACN) to the fixed wing aircraft fleet. The rotary wing aircraft fleet previously completed fielding of the ACN in 2019.

ACN replaces the Unit Level Logistics System - Aviation (Enhanced) and provides a streamlined user experience, improved record keeping to ensure continued airworthiness, and the ability to view aircraft availability in near real time across the fleet. Since Feb. 2018, nearly 30,000 Soldiers and civilians have been trained to use the ACN and over 9,000 pieces of computer equipment have been converted.

COVID has had a significant impact on our daily lives, both personal and professional. The way we work and live has changed in ways we would not have imagined or anticipated a year ago. We’ve learned new ways to execute the mission and those new ways have become the new standard. The PEO Aviation workforce has rapidly and readily adapted to the challenges presented by the pandemic. They have been consistently successful in meeting those challenges and stand ready to complete our mission now and in the future.

Author’s note: If you are assigned to European Command and need assistance with the ACN please contact CW4 Juan Amaro. at juan.a.amaro.mil@mail.mil. He completed his tour on the PEO Aviation headquarters staff and is now the ACN subject matter expert supporting EUCOM. Thank you, Juan for your support and good luck in future.

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



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NCO Feedback Vital To Capability Development

By SGM R. Woody Sullivan



U.S. ARMY PHOTO BY SGT SIDNEY MARHETTE, 34TH EXF, CBT, AVN, BDE.

The project management offices across Program Executive Office Aviation support aviators in the field with the development, design, delivery and support of all aviation systems and subsystems across the U.S. Army.

PFC Kenneth Duncan, an Unmanned Aircraft Systems Repairer (15E) assigned to Delta Company, 82nd Aviation Regiment in the Middle East performs a post flight maintenance check on an unmanned aircraft system, Gray Eagle, on May 3, 2020.

They are staffed with officers, civilians, and contractors, most of them with an aviation background. However, enlisted aviators were barely represented in the ranks.

PEO Aviation is always looking for new and inventive ways to complete our mission; the status quo is not sufficient. As a result, we have taken many steps to operationalize our project management offices (PMOs). One initiative in particular is paying significant dividends in the design and development of our portfolio.

PMO Senior NCOs

Starting in 2018, PEO Aviation leaders lobbied Army Aviation Branch to assign a senior non-commissioned

officer to each project office to provide enlisted subject matter expertise to the acquisition support systems and in the early stages of aviation system design, development and support.

Working in program, fleet, and logistical management, these NCOs are assisting in fielding new methods of maintenance and updated publications along with attending unit post-deployment after action reviews (AAR), executive reviews and new system operational testing. They provide a better understanding of how the aviation systems are employed by providing context, breaking down barriers between the PEO and units and providing immediate feedback to the project officers.

The NCOs support the product of-

ices and play a vital role in how the Army equips and supports the Aviation Warfighter. NCOs coming from operational assignments bring vital experience with the employment of systems at all echelons. They have a profound understanding of real world constraints on daily operations, both stateside and while executing missions worldwide. This understanding assists in the development of systems by highlighting components or upgrades that the end user may find ineffective, cumbersome or too difficult to maintain in the field before the system or component is released for testing. This added insight and operational experience provides valuable input to the initial engineering process and helps condense developmental timelines and saves the Army money.

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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 2019 National winners were featured in the April/May AAAA Annual State of the Union issue.



Aviation Soldier of the Year, 2013

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SPC Jeremy L. Wilson

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

SPC Jeremy Wilson is not only one of the most valuable assets to the 160th Special Operations Aviation Regiment (Airborne) but to the United States Army Aviation community as a whole. His noncommissioned officers (NCOs)

and officers have recognized him as an outstanding leader to his peers as well as junior NCOs. He passed the rigorous Navy Class II swim test, completed helicopter overwater survival training (HOST), the Army Survival Evasion Resistance Escape (SERE)-C and B courses, aircraft hoist training, and the special operations Basic Mission Qualification course; all within 14 months of his initial assignment.

He volunteered on numerous occasions for mission training and deployments overseas in support of Operation Enduring Freedom. While deployed, he performed valiantly under fire during numerous missions when his aircraft was engaged with small arms fire and rocket propelled grenades (RPGs) by returning fire and providing a safe corridor for his fellow crewmembers and the Special Operations Forces he supported. He also has become a servant of the community through his volunteer work with numerous local organizations. SPC Wilson's professionalism, tactical proficiency, outstanding duty performance and dedication to mission accomplishment identify him as most deserving of recognition as the 2013 AAAA Soldier of the Year.

an advantage when collecting honest, relevant feedback from Soldiers and leaders at all levels from platoon through brigade. The NCOs take this feedback and compile it into a focused Soldier feedback statement that highlights the Soldiers' thoughts, wants, needs and issues. The statement is used to help inform key developmental and sustainment decisions and assists in developing better products, procedures and capabilities for Soldiers.

Lines of Communication

The NCOs also develop positive lines of communication with engineers, logisticians, and trainers across all of the programs that they support. These lines of communication allow the NCO to offer another key service: direct support to the Warfighter. This direct support gives Soldiers in the field experiencing issues or with urgent concerns relative to their system a quick point of contact within the project office. The NCOs direct the issue to the correct subject matter expert and ensure the issue is resolved in a timely and efficient matter. Handling these issues quickly and efficiently ultimately leads to increased mission readiness and reduced Soldier frustration. Another benefit the NCOs bring by nature of their position is the ability to bring any serious or urgent issues the Soldiers may have directly to the product manager or the respective project manager for quick resolution.

The NCOs assigned to PEO Aviation also assist me in strengthening the bonds between the PEO and the Aviation Center of Excellence at Fort Rucker. Their personal and professional connections at the AVCOE facilitate conversations between our organizations.

This PEO Aviation initiative has been very successful and is paying significant dividends. Having NCOs embedded in the product offices provides a critical service to all aspects of a program from development through end of service by providing crucial input and feedback from the end-user. These NCOs ensure the Soldiers' voices are heard and provide a critical open line of communication between product offices and Soldiers in the field.

SGM R. Woody Sullivan is the sergeant major of the Program Executive Office, Aviation at Redstone Arsenal, AL; SFC Jason Prunty was a major contributor to the article.

In the Unmanned Aircraft Systems Project Office, this knowledge and real world experience is shared during site visits with contractors from companies that build UASs of all sizes for the Army. This valuable insight helps to drive the development and capabilities of future Army UAS by providing current operational feedback with engineers and program managers of the contracted companies. Site visits during development and testing of future UASs assist in creating a more informed conversation between industry and those developing the UAS of the future.

Direct Link to Enlisted Warfighter

NCOs serving in the project offices also provide a vital link between the

product managers and the enlisted Warfighter. As the senior enlisted advisor to the project manager, NCOs serve as a great conduit of information flow by providing feedback and areas of concern during back briefs to the product manager. They achieve this through small group AARs and individual touchpoints during site visits. These visits are critical to successful programs before, during, and after all stages of the UAS program life cycle.

NCOs within the UAS Project Office are an additional resource for product managers to use when covering multiple touchpoints and visits across multiple programs. As an added benefit, the NCOs' vast experience working alongside Soldiers gives them



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My Army National Guard (ARNG) Aviation Closeout

By BG J. Ray Davis

California ARNG CH-47F aircraft and crew providing wildfire suppression support.

U.S. ARMY CALIFORNIA NATIONAL GUARD PHOTO

As I pack my kit bag and make the inevitable step away from the U.S. Army and into retirement, I want to take this opportunity to say farewell and offer some parting thoughts on the state of ARNG Aviation and the future of the Aviation Enterprise.

For ARNG Aviation, there remains little downtime. The units stationed across the 50 States, 3 Territories and the District of Columbia are deployed, preparing to deploy, or responding to needs of their Governors. This year has been a hallmark in terms of support to the States; from the coronavirus pandemic, to civil unrest, wildfires and storms. Having served in assignments at the State level and here at the National Guard Bureau (NGB), I can tell you that the ARNG continues to passionately uphold the distinguishing “Dual Hat” mantle of support to the States, local communities and the U.S. Army.

The Army Aviation Enterprise is making great strides incorporating and implementing Aviation modernization into the ARNG. The UH/HH-60M fielding, continues to progress along with the acquisition of the UH-60V and the AH-64E on the horizon. My hope is that this era of equity in modernization planning continues as we build the Multi-Domain capable force. We realize the potential need for trade-offs in the coming years. The ARNG at the “Grass Roots” level can be a strong voice in impacting the outcome of forthcoming Aviation procurement endeavors. ARNG Aviation fulfills a major portion of the Army Aviation mission and it is imperative that the Aviation Enterprise continues a balanced approach in modernization.

Aviation training is expensive and carries a great deal of risk. The Aviation Enterprise must remain vigilant in pursuing the proper resourcing for not only training the Aviation force but

sustaining it as well. The strain on Army budgets will become more acute in the next few years and tailored Aviation training strategies will be crucial to enabling appropriate readiness levels to ensure the safety and welfare of the Aviation force.

With the Army focusing for the fight at echelons above the brigade, the ARNG is establishing Division Alignment for Training (AFT). The Division AFT allows division commander oversight mentorship and input in lower echelon unit training and readiness of doctrinally associated units. The ARNG divisions, like their Active counterpart, will require a tailored combat aviation brigade that can fulfill ALL the vertical maneuver roles to meet large scale combat readiness expectations.

The State of Army Aviation is on solid footing, and the future has never been brighter as we proceed further into the 21st century. Our Aviation Soldiers are well trained and dedicated to the mission. I am optimistic that the next several years will bring about capabilities in manned and unmanned Aviation to meet the needs of our Army and our Nation. The Aviation and Information Warfare Directorate at NGB, with the Aviation and Safety Division, are now further scoped to anticipate Aviation demands and requirements across the ARNG and the Aviation Enterprise.

Retiring from the Army as we all know can be a bittersweet moment with the loss of the camaraderie amongst Army and Aviation team members, yet an exciting transition to a new phase in life. I want to thank all of you who have helped me personally, as well as professionally, and supported the Army and ARNG Aviation. For over five years I was fortunate to serve as Chief of the Aviation and Safety Division and as the National Guard Assistant Director for Aviation and Information Warfare. These are experiences I will value for a lifetime and will truly miss and cherish.

Best wishes to you all and Fly Safe!

Editor's Note: The ARMY AVIATION magazine team greatly appreciates the support from BG Davis over the years and wish him and his wife, Maria, all the best as they transition into retirement!

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► Combat Readiness Center Update

Tools for Your Kitbag – The USACRC Has Them!

COL Ronald L. Ells

The holidays are here, and in the spirit of giving, I want to share with you the many risk management tools offered by the U.S. Army Combat Readiness Center.

They're all designed with the same goal in mind: helping you and your junior leaders protect our Soldiers and preserve the readiness you fight so hard to build.

First, with the exodus period nearing, many Soldiers will be driving away from their home installations to visit family and friends. After months of COVID-19 travel restrictions, their haste to get there could be stronger than ever. First-line leader counseling will be crucial to Soldiers understanding the hazards of not only driving to, from, and in and around their holiday destinations, but any trip throughout the year.

The USACRC has several tools to engage Soldiers on private motor vehicle safety, including the **Travel Risk Planning System** (<https://trips.safety.army.mil>) and **Small Unit Leader Cards** (<https://safety.army.mil/OFF-DUTY/Small-Unit-Leader-Cards>). While no longer an Army requirement before leave or pass, TRiPS remains an effective tool for thinking and talking through long-distance travel and is a fantastic complement to traditional face-to-face counseling. Likewise, Small Unit Leader Cards are printable, shareable, and customizable wallet-size cards that provide PMV mishap statistics and talking points for leaders counseling Soldiers on off-duty safety and risk management.

The **Off-Duty Safety Awareness Presentation** (<https://safety.army.mil/odsap>), one of the USACRC's longstanding risk management products, has proven effective for leaders looking to talk to their Soldiers beyond the standard safety brief. Updated and released annually during late spring, the presentation contains stand-alone modules on trending off-duty safety topics that may be briefed individually or to accommodate training schedules. The presentation spans all seasons and is a perfect addition to leaders' toolkits for weekend and holiday safety briefs.

It's a given that most aviators, maintainers and Aviation support Soldiers drive PMVs – which is why off-duty risk management is just as critical to readiness as what happens inside an aircraft. But with the significant volume of rolling stock that belongs to Aviation formations Army-wide, on-duty vehicle safety is an urgent priority. The **Driver's Training Toolbox** (<https://safety.army.mil/ON-DUTY/Drivers-Training->



Toolbox) is a collection of resources required for leaders establishing and maintaining effective driver training programs. It includes guidance from the September 2019 update to Army Regulation 600-55, The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing), which places responsibility for driver training at each level of command. I encourage you to check out the toolbox to ensure your programs follow the new regulation.

Lessons learned are perhaps the most valuable tool we have for preventing future mishaps and saving lives. Two products, the **Aviation Mishap Prevention Briefing** (formerly "Near Miss," <https://safety.army.mil/MEDIA/Exportable-Briefings>) and **Lessons Learned/Class A and Fatality Alerts Repository** (<https://safety.army.mil/lessonslearned>), are designed to promote awareness of the factors surrounding mishaps investigated by the USACRC. The briefing is downloadable and may be presented by unit leadership, or we will travel to you upon request for in-person interaction with mishap investigators themselves. Fatality alerts also provide excellent talking points for leaders engaging their Soldiers during safety briefs or stand-downs.

Finally, the USACRC recently released the brand-new **Mishap and Near Miss Reporting Tool**, the first module of the Army Safety Management Information System 2.0 now available for Army-wide use. It replaces the previous system, ReportIt, and features improvements including an intuitive, auto-populated drop-down tab interface that facilitates faster and easier mishap reporting. Check it out at <https://mishap.safety.army.mil/>, and please let me know what you think.

These are just a few of the tools the USACRC has designed with you and your Soldiers in mind. You can find them all at <https://safety.army.mil>. If you or any of your Soldiers have questions about any safety related topics, please reach out to us. We likely have an existing product that can be easily modified to fit your unit's needs. Safety is the most precious gift we can give this holiday season, and we owe our people nothing less than the best.

Happy Holidays — Readiness Through Safety!

COL Ronald L. Ells is the deputy commander of the U.S. Army Combat Readiness Center at Fort Rucker, AL.

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► 128th Aviation Brigade Update

Challenge & Adversity Breed Innovation – Competition Breeds Excellence!

By CPT Jacob Terlizzi



U.S. ARMY PHOTO BY CPT JACOB TERLIZZI

As one Fiscal Year closes and another opens, the 128th AVN BDE seamlessly continues preparing leaders to carry the force into the future by training to administer, grade, and prepare for the Army Combat Fitness Test, now the Army's fitness test of record.

Innovative methods have been refined to the current ACFT training concept used throughout the BDE. These methods continue to produce Soldiers and Leaders who will be an immediate asset to their next unit as subject matter experts on the ACFT.

The goal for our leader training framework is to take a Soldier with no prior knowledge of the ACFT and not only prepare him to safely take the test but, also, for NCOs, to properly grade each event and administer the entire test to standard. Starting with an overview, the training audience receives event orientation and familiarization of the mechanics for the six events. Grader training focuses on safety and standards of execution, emphasizing grader responsibilities and critical safety stops to prevent injury and ensuring proper standardized form is met for graded repetitions. At this point personnel have the necessary knowledge to safely and accurately serve as a grader for an ACFT.

The second half of the training program prepares personnel to run an ACFT and the third focuses on the actual set-up of the ACFT site. During

this phase of training, standards for the equipment used, the site requirements, lane measurements and markings, as well as equipment staging are all discussed in detail. The final instructional phase is on administration, where leaders learn how to administer an ACFT as the OIC/NCOIC. The training concludes with the certification phase where personnel conduct a practical validation and written exam covering key information and references necessary to safely grade and administer an ACFT. Using this process one company was able to certify over 80 personnel as graders and administrators (OIC/NCOIC), 42 of whom completed training under Covid conditions.

Before April ended, our Master Fitness Trainers (MFTs) had created a scalable, blended ACFT leader training program of instruction which fit our new environment. The plan used small group hands-on training with significant Covid-19 mitigation measures for those who had yet to complete required hands-on portions. Video conference was also used to augment academic training in the hangars. Portions of training that had traditionally been conducted out on a

Members of the 128th BDE train the new Army Combat Fitness Test under Covid-19 conditions at Fort Eustis, VA.

PT field such as event orientation, demonstrations, safety stop identification practice, etc., were now conducted by live video conference. Without changing the framework of the leader training, merely the delivery methods, we were able to continue regular training sessions for each phase of the training, to include testing and validation.

Our leaders' efforts and ingenuity have allowed ACFT training to safely continue, even throughout the peak of the pandemic. Each battalion across the brigade now plays an integral role in training new Soldiers on the test, working together to usher in the new era of fitness for the Army. Our leaders employ mitigation against Covid-19, all while training hundreds of AIT students regularly. Even with the restrictions and challenges caused by the pandemic, leaders can leverage unit MFTs and virtual systems to continue preparing themselves and their formations for the ACFT. The 128th Aviation Brigade Soldiers and leaders are ready to train and test for a more physically fit and combat ready Army!

"Born Under Fire!"

CPT Jacob Terlizzi is the commander of C Co., 1-210th Aviation Regiment, 128th Aviation Brigade, Joint Base Langley-Eustis, VA.

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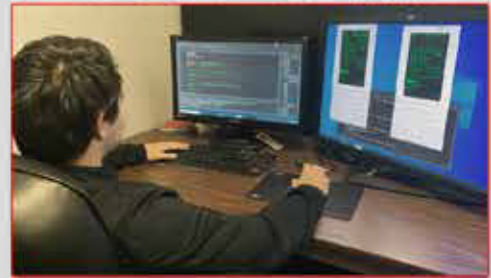
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Airworthiness Qualification of UAS with Swarming Applications

By Jeremy Rimmer and Robert Helton

Imagine walking through your neighborhood, looking into the distant sky, and seeing hundreds of small specks coming your way as a sharp buzz sound gradually grows louder and louder.



You keep staring, mesmerized, until they are almost on top of you. That is when you realize that they are a swarm of drones. By this time, it is too late for you to react if this is an adversary force. As it has been so often in the past with the evolution of Unmanned Aircraft Systems (UAS), or drones, as they are often referred to, this is no longer only in the realm of a Hollywood blockbuster. With near-peer adversaries boasting swarms greater than 100 aircraft, this could be a reality for current U.S. Army Soldiers in the field.

Recent advances in sensors coupled with the low cost of UAS has led to an increased use of UAS across the globe. One of the many recent applications is the swarming of UAS. Drone swarming has several civilian and military applications: search and rescue, surveillance, resource delivery, disaster relief, overwhelming enemy forces, chemical, biological, radiological, and nuclear (CBRN) defense, and countless others. Drone swarms are categorized in various manners: semi/fully autonomous, leader/follower relationship, clusters, superclusters, independent, representative swarming, etc. In addition, the swarm may be utilized to complete single or multiple independent tasks depending on mission needs. With such a broad range of applications, categorizations, and UAS capabilities, the means to evaluate and provide airworthiness qualification has become increasingly challenging.

The U.S. Army Combat Capabilities Development Command (CCDC), Aviation and Missile Center (AvMC), Sys-

tems Readiness Directorate (SRD) UAS Airworthiness Division is responsible for establishing criteria for airworthiness certification of U.S. Army unmanned aircraft systems. Army Regulation 70-62 prescribes the foundation for airworthiness qualification of an Army aircraft; however, for swarming applications of UAS, no standard criteria for airworthiness qualification exists. SRD is collaborating with internal and external Army organizations and industry partners to establish and evaluate the airworthiness of UAS used in swarming applications. The need to develop, assess, and certify the airworthiness of a UAS in a swarming application must be done in a responsible way that is safe, yet not prohibitive to the timely material development of new technology.

SRD continues to mature and enhance airworthiness requirements and standards to qualify UAS, including swarming applications. All current Army UAS have been issued Airworthiness Qualification Level (AQL) 3 AWRs. These aircraft have not met full airworthiness qualification or provided traditional airworthiness substantiation documentation. Flight demonstrations along with physical aircraft evaluations have been used in conjunction with thorough risk assessments to substantiate the feasibility to safely and effectively complete the mission within the prescribed limits. For swarming applications command and control failsafes, software failsafes, and safe separation are a few additional considerations taken into account when assessing the airworthiness.

All of this helps to ensure development can progress while still being attentive to deliberately managing risks.

SRD is working with industry partners, Army laboratories, and test centers to advance swarming technology and ensure that airworthiness criteria is considered and implemented early on in development. Over the past year, SRD has evaluated Commercial and Government off the Shelf (COTS and GOTS) Vertical Takeoff and Landing (VTOL) Group 1 UAS used in representative swarming operations. Several successful flights have been conducted with less than 100 small VTOL UAS within a 5 km range. Multiple different configurable parameters within the aircraft flight controllers keep the aircraft separated from one another while still being able to perform representative swarming operations. In addition, SRD is currently evaluating the airworthiness qualification of a GOTS UAS that uses common hardware and open source software which will allow for the integration of various sensors and payloads depending on mission needs. These are some of the first steps in achieving a qualified UAS for swarming applications.

The airworthiness qualification and fielding of swarming systems serves as a monumental step in the further integration of UAS in the modern battlefield.

Mr. Jeremy Rimmer is the Special Projects UAS SME and Mr. Robert Helton is the Special Projects UAS Engineer; both are assigned to the UAS division of SRD at Redstone Arsenal, Al.



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Q Fever

By MAJ (Dr.) Sara B. Snyder

Q: I am about to deploy to the Middle East, and I heard that there was a risk of getting something called Q fever. What exactly is Q fever, and should I be concerned?

FS: *Coxiella burnetii*, the bacteria that causes Q fever, is found worldwide and often finds a host in farm animals, especially goats, cattle, and sheep. Though those who work in animal husbandry are at higher risk for being exposed to *C. burnetii*, livestock farming is not a requirement for the transmission of Q fever to humans. *C. burnetii* bacteria is highly infectious

and hardy in the environment. It has the potential to be carried downwind as far as six miles from its source. Because of this inhalational hazard, there are hundreds of documented cases of Q fever infections among American and British military personnel deployed in Iraq and Afghanistan. In the Aviation community, dusts containing the bacterium can be aerosolized by

rotor wash and inhaled unknowingly, especially in the arid environments of the Middle East. These dusts can be contaminated by animal feces, urine or birthing products.

Ingestion is the second most common route of bacterial exposure. For this reason, you should avoid consuming raw or unpasteurized milk products, such as soft cheeses, when eating off the local economy overseas. The purchase of wool clothing or bedding products should also be avoided due to the ability of the bacterial to aerosolize from the cloth. Agricultural surroundings, combined with the hot, dry, and dusty environment of the Middle East, promote the most common routes of *C. burnetii* exposure. The greatest risk factors for Q fever chronicity remain in individuals with pre-existing heart disease, pregnant women, and immune compromised individuals. The risk for the development of chronic infection in otherwise healthy adults remains unknown.

Q fever is often confused with the flu because it can produce similar nonspecific symptoms like fatigue, fever, chills, muscle aches, cough, headaches, and night sweats. In fact, most mild to moderate cases of infection with Q fever may go undiagnosed and unrecognized by the individual. Approximately one-half of individuals that contract Q fever clear the infection on their own. However, a Q fever infection may require medical attention if it does not clear or progresses to more severe symptoms such as pneumonia or hepatitis. Because the clinical symptoms of acute Q fever are nonspecific and oftentimes asymptomatic, the disease can progress undiagnosed to the chronic form, where most of the grave morbidity and mortality complications from infection arise. The most common serious complication from chronic Q fever is endocarditis, or inflammation of the inner lining of the heart chambers and valves, which left untreated can



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lead to fatality. It should be noted that Q fever is especially concerning in pregnant women as it may result in miscarriage, premature birth, or low birth weight during pregnancy. It is therefore important for women with a past medical history of a failed pregnancy and occupational exposure to consider serologic testing to rule out *C. burnetti* infection.

Diagnosing cases of Q fever requires your aeromedical provider to have the necessary clinical suspicion and to perform a careful occupational and travel history. For both acute and chronic Q fever infection, a blood test with the *C. burnetti* Antibody Panel can provide essential clues as to whether the infection is present. It is recommended that anyone with a diagnosis of acute Q fever be monitored with blood testing and clinical follow up for approximately two years to rule out the possibility of a chronic, or persistent, infection. There are no Q fever vaccines currently available in the United States. Generally, the treatment for acute cases of Q fever in adults consists of a broad-spectrum antibiotic, such as doxycycline, for approximately fourteen days. For cases of acute Q fever with preexisting heart disease, such as valvular problems, treatment duration is much longer, approximately twelve to eighteen months. Cases of chronic Q fever require individualized treatment plans based on the severity of disease. Infectious disease consultation is recommended for all cases of acute and chronic Q fever. In an otherwise healthy Aviator, hospitalized for a flu-like illness or fever of unknown origin, Q fever should be considered, particularly in the setting of probable occupational exposure.

Fly safe!

Questions for the Flight Surgeon?

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.) Sarah B. Snyder, D.O., FS is a flight surgeon at the School of Army Aviation Medicine, Fort Rucker, AL.



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The Expandable Rotorcraft Diagnostic System or XRDS lightweight, next-generation health and usage monitoring system (HUMS).

ALL GRAPHICS COURTESY RMCI, INC.

RMCI, Inc's Advanced Health and Usage Monitoring System (HUMS) for Army Aviation

By Ms. Christina Stacy



In November of 2006, Huntsville, Alabama-based technology company RMCI, Inc. began supporting the Army's Aviation Engineering Directorate, Aeromechanics Division (AED) to meet the needs of Army Aviation regarding rotors and dynamic components and health and usage monitoring (HUMS). In its years of working with the US Army, RMCI's team of scientists and engineers provided support for the Condition-based Maintenance (CBM) program analyzing HUMS data, processing airworthiness qualifications, enhancing rotor track and balance solutions, and developing advanced algorithms and technology approaches for solving problems for Army aircraft and systems. In this support, RMCI developed, tested, and maintained analytical methods for rotary- and fixed-wing aircraft, both manned and unmanned. They focused on improving the effectiveness of HUMS the Army had procured. RMCI also

worked with the project management offices for Apache, Chinook, Black Hawk, Kiowa, and SOF. Some of the accomplishments that RMCI supported described below include new condition indicators for HUMS on various platforms, establishing new thresholds to accurately identify faulty components and reduce false positives, identifying methods to accurately pinpoint faults such as the Apache sprag clutch failure, and many more.

RMCI's team of experienced engineers advanced the effectiveness of HUMS. The team greatly improved the accuracy of the deployed systems by analyzing HUMS data, discovering the most effective algorithms, implementing those algorithms, and providing recommendations for systems regarding the data. The Army's benefit was that there were increased identifications of faulty components that likely prevented precautionary landings and mission aborts.

The company also supported rotor coefficient development across aircraft platforms that were demonstrated to improve and reduce the amount of time

required to perform rotor track and balance. Specifically, RMCI's Engineering Manager Steve Krick supported the AED in developing new rotor balancing coefficients for the CH-47. He successfully decreased the aircraft's amount of maintenance test flights for rotor track and balance by over 50%.

In addition to supporting hands-on research and development, RMCI partnered with the AED by participating in technical interchange meetings, professional conferences, co-authoring technical papers, and creating a structure to evaluate the benefit of HUMS by analyzing databases that recorded and tracked rotorcraft data.

RMCI, Inc. Today

Today, RMCI has become expert in product development, electronics design, software, and civilian airworthiness processes such as supplemental type certificates, and adaptation of HUMS to many aircraft platforms. RMCI's CEO, Kenneth Speaks says the company's work with the AED greatly contributed to technological



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advancements in the science and practical application of HUMS.

“Having access to data from over 3,000 helicopters provided the opportunity to become experts in rotors and dynamic components for various helicopter drive train systems. That knowledge was key in development of the XRDS™, the Expandable Rotorcraft Diagnostic System.”

The XRDS is a lightweight, highly effective, next-generation HUMS for commercial and military aircraft. The easy-to-use software provides real-time diagnostics of the entire drive train; flight data monitoring (FDM); and assistance with routine maintenance such as shaft balance, engine vibration checks, and rotor smoothing. The (roughly) 2-pound hardware system is designed for growth to incorporate additional sensors and emerging technology—hence the name “Expandable.” Speaks says there is a great potential for RMCI to adapt its system for the Army.

“One system. One software. All Army,” he adds. “If the XRDS were the single line-replaceable unit (LRU) for an Army fleet of 2,000 aircraft, 70 tons of weight could be eliminated.”

Additionally, a CAB could deploy with one LRU for all aircraft types. Imagine that—one LRU, for an entire theatre of operations. The XRDS uses the same LRU for all aircraft—large or small. And provides one common ground station for all aircraft, which enables fleet management for a mixed fleet of aircraft. {Not to mention a significant increase in the overall reliability of the HUMS systems}

Not only does RMCI offer modern electronics, the company’s team developed accompanying ground station software with tools for powerful advanced analytics. Krēnō is the ground station that accompanies XRDS. The data from XRDS is displayed in Krēnō in an intuitive manner than can be interpreted at the flightline, by the fleet manager, or by an analyst or engineer. It was designed to both perform the routine functions like rotor track and balance and perform a detailed analysis of the data.

Using XRDS™ and Krēnō™, fleet operators of any size can monitor gearboxes, bearings, shafts, engines, and rotor systems on a wide range of helicopter platforms. This minimizes repair costs, downtime, and potential liabilities due to incidents.

Over time, operators can use this ac-

cumulated knowledge to forecast which parts need to be purchased for PLL, and manage these purchases on a “just-in-time” basis, rather than building and maintaining a large “just-in-case” inventory of helicopter parts in-house.

RMCI’s Vice President, Lance Antolick says, “The sheer power of the helicopter health data that you can collect and act upon by using XRDS and Krēnō is truly impressive. With XRDS and Krēnō, you will know what is happening on your helicopters, and what you must do to correct faults and maintain components within specified tolerances. You will also minimize aircraft on ground situations, keeping your customers and your firm’s budgetary executives very, very, happy. In these ways, XRDS more than pays for itself.”

RMCI currently works with a large variety of commercial aircraft operators in the fields of Energy, Firefighting, utility, search and rescue, air ambulance, VIP, and law enforcement. The XRDS has been installed on MD series helicopters 369, 530F, and OH-; H-60A, H-60-L, Bell 206B3, H-1, OH-58 and 407; Airbus EC-120, BK 117 B2 and C2, AS-350; and fixed wing aircraft. This fall, RMCI was awarded a heavily competed contract with the US Department of State to implement the XRDS on State Department aircraft.

The Future of RMCI

RMCI’s goal is to provide effective aircraft data monitoring where operators can have the immediate benefit of additional safety of their aircraft and realize a short-term return on investment by streamlining operations. The U.S. Army has the potential to immediately reap the benefits of the advancements in technology that RMCI has created, and to field a commercially proven system from an experienced HUMS and Army airworthiness team.

Speaks says of RMCI’s capabilities, “I like to think we have created an environment of intellectual freedom: we are not restricted by bureaucracy or factors that might impeded innovation. We are able to pursue excellence without interruption. Someone once told me: ‘You have a large company capability with a small company agility.’ I think that’s an accurate description of who we are.”

Christina Stacy is the program analyst for RMCI, Inc. located in Huntsville, AL.

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Using Doppler Radar Technology to Enhance Aircraft Survivability Equipment (ASE) Performance

By Shaul Mazor and Ariye Caplan



MACS installed on Mi-17



SPREOS DIRCM installed on Mi-17



The rapid pace of emerging threats makes aircraft much more vulnerable than they used to be and requires increased time for Aircraft Survivability Equipment (ASE) systems to detect, confirm, and counter these threats. Effective confirmation and validation of the threat while precisely understanding the threat nature dramatically increases the ASE system's ability to implement the appropriate protective countermeasure response, therefore ensuring the highest effectiveness required to defeat the most advanced threats.

BIRD Aerosystems' unique technology enables the use of a Semi-Active Doppler Radar as a secondary detection sensor tasked with interrogating the approaching threat detected by the primary optical missile warning sensors (MWS), and confirming that it is a real missile and not a false alarm. At the same time, it precisely assesses the nature of the threat, tracking it and cueing a soft or hard-kill countermeasure.

The new technology makes it possible to identify and help intercept high-velocity threat attacks such as enemy MANPADS (Man-portable air-defense systems), RPGs (rocket-propelled grenade), and various kinds of Missiles and rockets. Implementing the Semi-Active Doppler technology in the ASE solution enables users to detect threats in a way that has never been possible before, ensuring optimal aircraft protection tailored to defeat each specific threat.

Unique Technology

The typical engagement scenario of the Semi-Active Doppler radar is initiated once a suspected threat is detected by the main optical ultraviolet/infrared (UV/IR) MWS. Using a very short transmission time, narrow antenna beamwidth, and

a high-frequency band, the radar can guarantee high accuracy in validating the target while also making it nearly impossible to locate by standard electronic intelligence (ELINT) systems.

Targeting the challenging scenarios of short-range shoots, the Semi-Active Doppler radar is activated upon a pre-alarm signal from the MWS, which, when followed by the Doppler Radar confirmation sequence, enables the ASE system a quicker overall warning time with a practically zero false alarm (FA) rate.

Concurrently, the Doppler radar signals, once returned from the missile, are analyzed to determine the radar cross section (RCS), distance, and velocity of the approaching threat. This valuable information enables the ASE system to assess the threat's nature and uniquely calculate the time-to-impact, a vital indication that can, for the first time, be used to deploy the most appropriate countermeasure response.

The confirmation of the threat by the Doppler radar, which reduces the False Alarm rate to practically zero (order of one FA every few hundred hours), eliminates diverse operational problems that relate to shooting unnecessary flares. It allows aircraft to fly in a fully automatic mode without compromising on aircraft stealth and safety (during covert operations, night flights, formation flights, etc.).

Another important operational advantage of using the Doppler radar is the Kill Assessment. This assessment is performed by tracking the missile throughout the jamming process, providing real-time feedback on the jamming's effectiveness, and enabling the ASE system to constantly assess whether additional countermeasures should be deployed to defeat the threat.

Patented Solutions

The Semi-Active Doppler radar technology is implemented in several patented sensors and systems that BIRD Aerosystems has developed and are offered today to customers around the world.

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MACS (Missile Approach Confirmation Sensor) is a Semi-Active confirmation radar in the Ka-Band, intended to perform as a complementary sensor to a primary MWS sensor to significantly reduce the false alarm rate for the combined system. Queued by an MWS suspected threat, MACS points towards the suspected threat and performs a Doppler-based interrogation to confirm the existence of a valid threat; otherwise, the threat is a False Alarm. The validation process between the electro-optical sensors and the MACS provides the most effective filtering of all known natural and human-made types of false alarms typically detected by electro-optical sensors. As such, MACS ensures that only real missiles will be declared by the system and reacted upon. MACS is fully operational and has been installed on a wide range of aircraft ranging from small helicopters to wide-body aircraft.

SPREOS (Self Protection Radar Electro-Optic System) is a patented DIRCM system for Missile Approach Verification, Dual Band Tracking, and laser Jamming. It combines a Semi-Active Dual Band Radar (L-Band for wide-angle coverage and Ka-Band for fine tracking) and Directional IR Countermeasure. Queued by an MWS, SPREOS points towards the suspected threat, performs a Doppler based interrogation to confirm the existence of a valid threat, and extract its key parameters. Through the patented concept for acquiring of incoming threats via the dual band (L & Ka), SPREOS can uniquely be integrated with any legacy MWS (including low precision sensors). In addition, SPREOS precisely tracks and points an advanced 5th generation solid-state Quantum Cascade Laser (QCL) towards the threat for the most effective jamming of IR seeking MANPADS. SPREOS uses the Doppler Radar to continually assess the jamming effectiveness and provide a

Kill assessment to the ASE system.

Both MACS and SPREOS are fully qualified for both Military and Civil Aircraft standards (MIL-STD & RTCA/DO-160/178/254). They can be integrated as a standalone or as an add-on LRU (line replaceable unit) to any ASE system, and can also support a single or multiple turret configuration according to the aircraft requirements.

The Efficiency of Doppler Radar technology

Using Doppler technology enables dramatic enhancement of the effectiveness of an ASE solution while providing key building blocks in implementing future airborne Hard-Kill solutions. The unique capability of ensuring a zero False Alarm rate along with a precise three-dimensional radar tracking of the incoming threat enables the ASE system to effectively cue a hard-kill Mechanism while ensuring the safety of the surrounding forces.

BIRD Aerosystems is an Israeli company specializing in developing and deploying Airborne Missile Protection Systems (AMPS) and Airborne Surveillance, Information and Observation (ASIO) solutions. BIRD's field-proven AMPS family of solutions provides complete protection against all known surface to air missiles (SAM), including MANPADS, Laser Beam Rider threats, and radar-guided missiles.

BIRD Aerosystems has been providing the AMPS system to the US Army over the last ten years for its diverse programs around the world.

Mr. Shaul Mazor is VP Marketing and Business Development and Mr. Ariye Caplan is VP Aircraft Protection Program at BIRD Aerosystems.



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Apache Reset at Fort Hood, TX.

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DynCorp International Provides Army Aviation Readiness for Seven Decades

By Chanel Mann



In 1951, DynCorp International (DI) began its decades long aviation support partnership for the U.S. military. It started with the Contract Field Teams (CFT) program, where DI began providing aviation maintenance support for the U.S. military domestically and internationally. Though CFT is a U.S. Air Force Indefinite Delivery Indefinite Quantity (IDIQ) contract, it is open to any military branch. DI is the only company to have held the CFT contract continuously since its inception in 1951 – one of the longest continuous incumbencies in government contracts.

Today, DI is the Army's largest single aviation maintenance services provider through the Aviation and Missile Command (AMCOM) Aviation Field Maintenance (AFM) contract, Security Assistance Management Directorate (SAMDM) Maintenance Support Services (MSS) contract and the PEO Aviation Fixed Wing

Transport Life Cycle Services contract.

"DI currently holds both AFM East and West contracts supporting the Army's operational helicopter fleet of AH-64, UH-60, CH-47 and UH-72 aircraft, at home station and wherever they are deployed around the globe," stated Doug Eller, the DI Army Aviation Business Development lead. "We provide field and sustainment level maintenance support, aircraft modifications, and other logistical support services for more than 1,200 aircraft at over 59 locations, including forward deployed, to deliver readiness for the warfighter."

"Additionally," Eller continued, "With the Army divesting its organic fixed wing maintenance services capabilities in the mid 1990's, DI currently provides a comprehensive contractor logistics support (CLS) package to ensure C-12, C-26, UC-35 and T-6 transport aircraft readiness at 70 locations worldwide."

Maintaining the Army Helicopter Fleet

"The maintenance division supports roughly three quarters of the Army's

helicopter fleet," said Lowell Green, AFM-W senior program director. "We specialize in Reset of aircraft, installation and removal of modification work orders (MWO), combat aviation brigade (CAB) pass-back maintenance on rotary wing aircraft and government furnished property or equipment. The support also includes transient and rotational units, aircraft participating in joint training exercises, mobilization and pre-mobilization aircraft, and approved foreign military sales (FMS) cases."

"Of the 59 combined locations for AFM East and West, DI supports an average of 390K + maintenance man-hours per month across all efforts from CAB pass-back to Reset," said Rick Crogan, DI Army Programs sr. director. "Some Reset aircraft require complete dismantle and rebuild including engines, blades, electrical systems and wiring, depending on the unit OPTEMPO and deployment conditions. The aircraft returning from harsh environments require more 'TLC' and a thorough deep dive to ensure aircraft and systems readiness for the next deployment."



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Loading Army C-12 onto USS Essex at North Island NAS Coronado, CA.

Quality Management System

And how does DI stay at the top of the Army Aviation field? Through strategic positioning, continuous improvements and a robust quality management system (QMS). If an aircraft must land in a remote area due to a maintenance issue, DI has Downed Aircraft Recovery Teams (DART) located worldwide to assist in the recovery of an aircraft in the field. DI also has load teams stationed worldwide to as-

sist in port operations with the staging, loading and unloading of aircraft as they move in and out of theater. DI can return Reset/Phase aircraft back to the customer in a shorter Turn Around Time (TAT) with reduced cost thanks to a Work Breakdown Structure (WBS) project management tool that leverages continuous improvement methods.

DI's QMS contains processes and procedures that are proven to be success-

ful in producing quality aircraft maintenance. The Quality Assurance Surveillance Plan (QASP) allows the government to verify and conduct an assessment on the contractor performance to identified performance objectives. Since contract award, the AFM program has achieved final aircraft inspection QASP scores of over 98 percent, indicating the customer is receiving a quality product on time and under budget.

Pandemic Challenges

The previous seven months have certainly brought new challenges to DynCorp International's work, which was declared critical infrastructure by the United States government. And how is life under COVID-19 at DI?

"Maintaining compliance with the daily release of state, national and international guidelines has been daunting for the CLS-Transport team," Kirk McCauley, DI's CLS Transport sr. program director. "Each state and country of operation has varying mandates for mitigating and tracking the pandemic. In response, DI created a dedicated corporate task force to ensure these requirements are identified, disseminated and met – and we've done this across the board for all Army programs. In every instance, DI has worked with our customers to find and implement creative solutions, all while supporting our ongoing missions and maintaining readiness with exceptional operational metrics."

"We're doing the same thing we've always done, but we are doing it with masks, social distancing where practical, creative scheduling and of course frequent hand-washing," said Crogan. "As a company, as a team, we've always specialized in innovation and readiness."

"I am very proud of the entire DI team and for the great partnership with our valued customers – from the unit tech supply and production control teams working with us down-range, to the government QARs, CORs and their leadership," continued Crogan. "No single group can do this alone. Through the collective efforts of everyone, Army Aviation continues to deliver for the Army, and it is very rewarding to see this all come together now more than ever."

One Team One Fight!"

Chanel Mann is the communications and public relations manager for DynCorp International.



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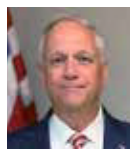
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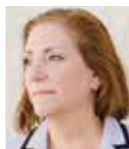


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Demonstrating Army Aviation Science, Technology in the Dirt

By Mr. Carvil E.T. Chalk



NASA PHOTO BY HARLEN GAFFEN



Convergence – the focus of Army senior leaders – comprises a campaign of learning to advance Army warfighting capability in a joint and international context by rapidly and continuously integrating effects across all domains in near real-time against the adversary. Designed around five core elements – people, weapons systems, command and control, information and terrain – Convergence relies on a series of continuous, structured experiments where technology solutions are demonstrated in the “dirt” to get an early look at their potential utility and performance in a demanding environment where it matters most to the ground force commander. These core elements of the Convergence plan are reflected across Aviation science and technology in its organization, focus and execution.

Compound Helicopter Interactional Aerodynamics (CHITA-V) test bed in the 14- by 22-foot Subsonic Tunnel at NASA Langley Research Center, VA.

Reorganization

This year the U.S. Army Combat Capabilities Development Command Aviation & Missile Center executed a broad reorganization that aligned its Aviation and missile science and technology groups into a single Technology Development Directorate. This unification of S&T across these broad technology areas is indicative of the Army’s goal for integration at all levels. While this reorganization does not change our



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fundamental mission, it does come with accompanying name changes for our three geographically dispersed sites.

The former Aviation Development Directorate (ADD) now exists as the Aviation Technology arm of TDD (TDD-A) with a core team at Redstone Arsenal. Operating from Joint Base Langley-Eustis, Virginia, is our Systems Integration and Demonstration team, formerly ADD-Eustis, which is led by Col. Justin Highley. This team executes our projects for mission systems, platforms, and Army Aviation readiness support utilizing unique aircraft modification and test facilities along with a diverse set of standard and modified aircraft.

Operating from the NASA Ames Research Center in California, and the NASA Langley Research Center in Virginia is our Design, Simulation, and Experimentation team, formerly ADD-Ames, which is led by Dr. Oliver Wong. This team executes our projects for design, test and aeromechanics utilizing a variety of computational tools, joint-use wind tunnel facilities and in-flight laboratories.

Across TDD-A, we continue to partner with other government agencies, industry and academia through our Vertical Lift Research Centers of Excellence, technology interchange agreements, and cooperative research and development agreements to collaborate and share knowledge. While integrating such different groups can be challenging, we share the common goals of improving connections, leveraging technology and expertise, and gaining efficiency, and the success we achieve year after year is built on our most prized asset – our people.

Most Prized Asset

The people of Aviation S&T are an extraordinary group of professionals – military, civilians, and contractors – who

are dedicated contributors to the Army mission. They execute a portfolio comprising every area of Aviation technology for rotary-wing, fixed-wing and unmanned aircraft. The expertise and talent of this group comprises leaders across the spectrum.

Aviation technology benefits from two of CCDC AvMC's Senior Technologists – world-renowned experts in their fields. Dr. Mark Tischler, ST for Flight Controls, retires this year after more than 35 years of service. During his tenure, Dr. Tischler led his team to advance the capabilities of flight controls development through the execution, analysis and reporting of hundreds of experiments and by the provision of high-fidelity software tools to model aircraft flight dynamics and guide users to achieve closed solutions for control laws that enhance the pilot's ability to meet the mission. At the same time, Dr. Mahendra Bhagwat, already a member of our research team, assumes a new role this year as our ST for Air Vehicle Aerodynamics and Preliminary Design. Dr. Bhagwat will capitalize on his expertise in aeromechanics and basic research to shape our capabilities to develop new air vehicles and advance our analytical tools.

Weapons Systems Developments

From the weapons system perspective, Aviation S&T continues to support the Army's FVL modernization efforts. This year the team finalizes the transition of technology, tools and processes that form the foundation of a Modular Open Systems Approach for the Aviation enterprise. Likewise, the Future Attack Reconnaissance Aircraft – Competitive Prototype program is currently on track to deliver two flying prototypes in fiscal year 2023 – a remarkable accomplishment

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given design activities only started in 2019. At the end of 2020, the FARA-CP program transitions from AvMC to the Program Executive Office-Aviation, who will continue this critical effort. Finally, our team successfully developed Air Launched Effects and Advanced Teaming capabilities that were showcased at Project Convergence 20. Here we demonstrated multiple key technical milestones that included launching multiple teams of ALE from a FARA surrogate at tactical altitudes in forward flight, extending the range, safety and effectiveness of the ground maneuver commander.

While not directly involved in mission command systems at a theatre level, command and control of these ALE teams was enabled by low-workload, human systems interface technologies and limited onboard autonomy. Inter-team communications relays on secure networks extended their effective range well beyond low-altitude line-of-sight. We also explored intra-team mesh network concepts for resilient operations in communications degraded or denied environments. The information collected by these teams was made available to a variety of network entities for timely prosecution of targets as a part of the overall sensor-to-shooter kill chain necessary for effective Joint All-Domain Operations. While information management in these systems will certainly be challenging in the future given the small ALE form factor, advancements in artificial intelligence and onboard data processing will make the solutions achievable.

Also, in 2020, we completed the demonstration of data fusion through our Degraded Visual Environment-Mitigation program. The final experiments this fall used the fusion of RADAR and LIDAR outputs into a single dataset that enabled a modified UH-60 to navigate autonomously through terrain and perform safe-landing operations while avoiding near field obstacles. Further development of fusion technology will contribute to positioning our Soldiers where we need them without regard for degraded environments.

For our air enabling technologies, the successful entry of the Compound Helicopter Interactional Aerodynamics test bed into the 14- by 22-foot Subsonic Tunnel at NASA Langley Research Center culminated a multi-year effort to design, build, and test a real-time reconfigurable model. This enables us to gather experimental data for rotorcraft using new combinations of single- and multi-rotor systems, wings and propellers. These data will enrich our understanding of complex aerodynamic phenomena and enable accurate modeling of long-range/high-efficiency configurations.

As the Army shifts to the Convergence model, AvMC is postured to bring multiple Aviation S&T programs to these demonstrations in 2021 and integrate them into the larger MDO requirement. We also look forward to successful demonstrations of our enabling technologies such as our Next Generation Rotorcraft Transmission and our Alternative Concept Engine, both of which are designed to provide advanced multi-speed propulsion system capabilities, along with the further development of our Integrated Mission Equipment digital backbone and architecture verification environment supporting the Modular Open Systems Approach.

Mr. Carvil E.T. Chalk is the Deputy Director for Aviation Technology of the Technology Development Directorate, CCDC Aviation & Missile Center, located at Redstone Arsenal, AL.

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Whatever Happened to “A-E-D?”

By Mr. Keith R. Darrow

Shortly after our last special focus article on airworthiness preparations for the future vertical lift aircraft appeared in the December 2019 issue of Army Aviation magazine, the engineering support capabilities of the widely-known Aviation Engineering Directorate (AED) were significantly increased through a mission-focused reorganization at the U.S. Army Combat Capabilities Development Command's Aviation & Missile Center (CCDC AvMC). Within this article, I will summarize some of those recent changes that have left us even better prepared to provide life-cycle engineering support for aircraft and missile system readiness, as well as to provide responsive support for the Army's modernization priorities.

Although the former AED served the Army Aviation community for over two decades, it, too, evolved through a series of reorganizations. From roots planted in 1952 at the Transportation Corps' Army Aviation Field Office, Army airworthiness and aviation engineering support functions transitioned through at least six different commands before landing at CCDC in early 2019. Also, at that time our immediate higher headquarters, the former Aviation and Missile Research, Development, and Engineering Center, became AvMC and began to reassess the Center's legacy, five directorate organizational structure with respect to new mission priorities.

New Capabilities

As a result, within AvMC's new three-directorate structure, the airworthiness-focused AED joined with the functional engineering elements of the former Engineering Directorate to create the new Systems Readiness Directorate (SRD). As envisioned by the Center's Executive Director, Dr. Juanita M. Christensen, this realignment created multiple potential

synergies and efficiencies to enhance support for both aviation and missile systems. Specifically, the Army Aviation community gained even better support across functional disciplines including: industrial operations; manufacturing science & technology; production engineering; quality engineering; quality management; reliability, availability, and maintainability assessments; technical data management; and test & evaluation. Through ongoing integration initiatives, these technical functions are becoming more fully synchronized with the traditional airworthiness engineering functions of aeromechanics, aircraft maintenance engineering, human factors, mission equipment systems, propulsion systems, structures & materials, and platform-centric systems engineering.

To ensure responsive technical support for aviation and missile acquisition activities, SRD's business model now includes over 400 government personnel embedded within acquisition project offices, working alongside core project management personnel as fully integrated members of their teams. Likewise, to provide agile, multi-disciplinary engineering support to further modernization priorities, enable product performance upgrades to legacy aircraft and missile systems, and resolve readiness challenges with fielded equipment, SRD manages over 1,000 additional government and contractor engineers and technical personnel. The wealth of technical knowledge and experience resident within this incredibly talented workforce is now further magnified through enhanced synchronization of their myriad activities in support of aircraft and missile systems.

The greatly increased agility and robust technical capabilities inherent to the directorate's new structure proved invaluable while orchestrating engineering support for the materiel enterprise



PHOTO BY KETHI DARRAW

The former AED has now transitioned into the CCDC AvMC Systems Readiness Directorate.

response to recent manufacturing process quality control escapements reported to the government by original equipment manufacturers. SRD required only minimal reaction time to assemble teams of multi-disciplinary technical personnel and, as needed, to revise their mission priorities, including reassignment of their ongoing but lower-priority workload to other teammates. Pandemic-related travel restrictions notwithstanding, several of these incidents also required rapid, mission essential deployment of SRD technical teams to manufacturing facilities so that the government personnel could interact directly with production technicians on the respective assembly lines. Meanwhile, additional SRD teammates were simultaneously engaged in engineering support activities on a virtual basis, such as detailed reviews of needed changes to manufacturing, repair & overhaul technical plans. In a highly-collaborative environment with the acquisition project offices, U.S. Army Aviation and

Missile Command (AMCOM), our industry counterparts, and contracting specialists, time and again we successfully mitigated adverse impacts to materiel readiness and supply availability.

Additionally, to facilitate acquisition project managers' work on the materiel release process for new or substantially modified end items, SRD now integrates both airworthiness substantiation (as needed) and multi-faceted engineering support. Thirty-two distinct activities are typically required to support full materiel release. Moreover, in direct support of the materiel release authority, the AMCOM commanding general, SRD now serves as the designated functional authority for suitability of aviation and missile systems.

Army Modernization

Naturally, as the primary aviation and missile science and technology center within Army Futures Command, CCDC AvMC is very heavily involved with several of the Army's highest-priority modernization efforts, including long-range precision fires, air & missile defense, and future vertical lift (FVL). For my fellow Army Aviation readers, I will briefly highlight some of the ongoing

preliminary airworthiness activities that support the FVL family of aircraft.

Beginning in mid-November 2020, SRD airworthiness engineers supported a series of final design and risk review meetings for the future attack reconnaissance aircraft. These reviews included early-stage assessments of airworthiness-related watch items such as fatigue testing, material properties, software qualification, and system safety. For the future long range assault aircraft, in parallel with completing updates to the airworthiness qualification plan, SRD is collaborating with project managers to ensure that requirements for airworthiness substantiation data are properly captured within the draft statement of work for the program of record.

Additionally, in overarching support of upcoming FVL activities, in early September 2020 SRD published revision A to the Army Military Airworthiness Certification Criteria (AMACC) document. This document describes Army airworthiness processes and the criteria, standards and methods of compliance necessary for airworthiness assessments of our manned and unmanned aircraft systems. Shortly thereafter, in early October 2020, SRD

delivered to the Program Executive Office, Aviation version 1.0 of model-based systems engineering models of AMACC rev A, based upon the Systems Modeling Language (SysML). This SysML model data will now be used as a library of airworthiness requirements to guide development of airworthiness qualification plans and to provide traceability of a manufacturer's airworthiness qualification specification requirements back to the AMACC library of model data.

And so, although the former AED has now transitioned into the Systems Readiness Directorate at CCDC AvMC, its legacy of excellence in airworthiness and aviation engineering support for Army Aviation continues to be a force multiplier not only for fielded aircraft, but also for the next generation of technologically-advanced vertical lift aircraft.

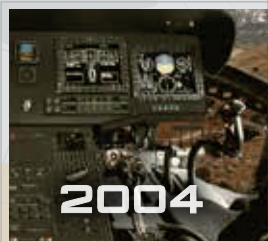
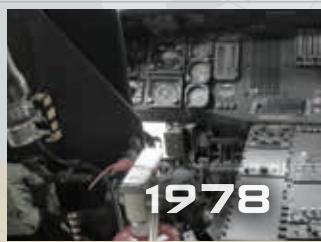
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Powering Army Aviation: The Aviation Turbine Engines Project Office Update

By COL Roger D. Kuykendall

Despite COVID-19, the ITEP maintains acceleration to meet FARA CP First Flight in FY23.

2020 for Army Aviation has been an apposition of adaptation, acceleration, and modernization. The unprecedented COVID-19 global pandemic has impacted every sector of government and industry; nothing is “business as usual.” Army Aviation has adapted to the “new normal” through increased telecommunication, greater flexibility, and over-communication with Industry to mitigate potential impacts. Future Vertical Lift (FVL) has continued to progress the Future Attack Reconnaissance Aircraft (FARA) Competitive Prototypes (CP) and Future Long-Range Assault Aircraft (FLRAA) programs. Army Aviation also continues supporting enduring platforms and Combat Aviation Brigades, delivering products to the field, and maintaining foreign military sales partnerships. As the central management office for two FVL Tier Two Modernization efforts, the Aviation Turbine Engines (ATE) Project Office strategically adjusted to the “new normal” by emphasizing safety while continuing to design, develop, deliver, and support power solutions.

Turbine Engine Power

The Improved Turbine Engine Program (ITEP) is a critical component to

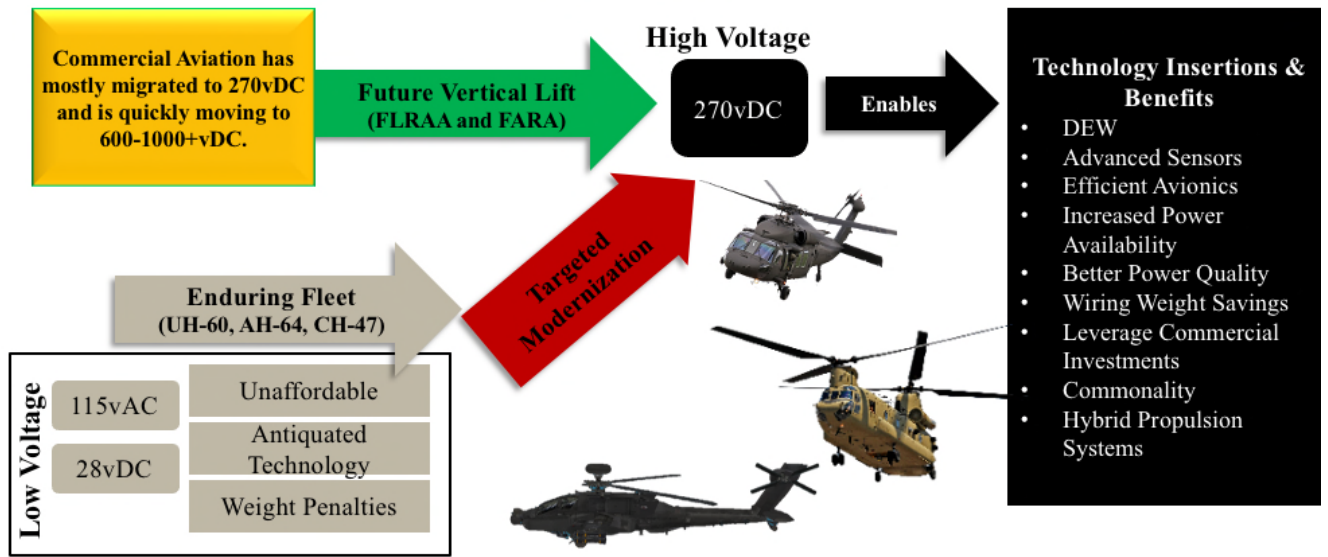
the FARA CP first flight and will keep the Apache and Black Hawk fleets viable as the successor to the T700 engine program. An Acquisition Category IC program and critical modernization priority, the ITEP will provide next-generation power to FARA with a state-of-the-art 3,000 shaft horse power class engine. The integration of the more powerful ITEP will enhance Army Aviation’s Reach and Lethality in Multi-Domain Operations (MDO) with increased range and payload in high-hot flight conditions while offering reduced fuel consumption and decreased maintenance.

The ITEP completed Milestone B on 29 JAN 2019 and awarded an Engineering and Manufacturing Development contract valued at \$519M to General Electric (GE) Aviation for the T901 turbine engine on 1 FEB 2019. In 2QFY20, the ITEP completed Fit Checks in an Apache AH-64E and a Black Hawk UH-60M using a 3D-printed full-scale model of the GE T901 engine. The ITEP Integration team collaborated with the Apache Project Office, the Utility Project Office, Boeing, Sikorsky, and GE Aviation to assess the form, fit, and Human Systems Integration (HSI) of the GE T901 as an

integration risk reduction effort. After seamlessly completing the Fit Checks, the ITEP engaged in a technical review of the engine design in the Critical Design Review (CDR) milestone and completed ahead of schedule in 4QFY20 despite unprecedented challenges from the COVID-19 pandemic. All three CDR events were conducted virtually, a first for a major milestone event. The ITEP is pressing forward with an accelerated schedule to conduct rigorous component testing in preparation for the First Engine to Test (FETT) milestone in late 4QFY21. FETT will kick-off the testing required for a Preliminary Flight Rating which is crucial to enable the FARA CPs first flights and initiate the Apache and Black Hawk Developmental Testing. During FETT, all sub-components will be assembled and the T901 engine will operate for the first time.

As the ITEP progresses, the ATE Project Office continues to manage the T700 and T55 engine programs. With four decades of service, 50 million flight hours, six major performance upgrades, and integration into multiple premier helicopter platforms, the T700 is the foremost military turbine engine. In 2020, the T700 engine program oversaw

Timely targeted EPS modernization will serve as an incubator for FVL.



ALL GRAPHICS U.S. ARMY ATE PROJECT OFFICE

Figure 1. EPS Initiatives will utilize enduring platforms as technology incubators for FVL.

a five year international repair and overhaul program, completed a virtual Component Improvement Program (CIP) event, fielded the redesigned P09 Enhanced Digital Engine Control Units (EDECUCU), and pursued enhanced durability for the Stage 1 Blisk. In 2020, after six decades, the T55 engine reached 12 million hours of operation powering the Chinook CH-47F and MH-47G helicopters. The T55 engine program completed a successful virtual T55 Program Management Review (PMR) and is collaborating with the FLRAA Project Office to develop power requirements.

Electrical Power Systems

In 2018, the ATE Project Office began tracking performance and readiness of electrical power systems to identify advances in power electronics, energy storage, power generation, and power management systems. The team found a widening gap between current power capability and demand because of reliance on antiquated technologies. In response, the Electrical Power Systems (EPS) team was formed within the ATE Technical Division. The EPS team is conducting early research to inform requirements development, pursuing contracting avenues, and initiating efforts in Architecture Modeling and

Development, Power Generation, Power and Thermal Management, Power Electronics, and Energy Storage. Now a Tier Two Modernization priority, the EPS initiatives will provide modern, common solutions through a tiered approach of research, development, and integration with collaboration among fellow military services, Industry, and academia. By utilizing the enduring platforms as technology incubators, the EPS team can inform FVL requirements, reduce future risk, and streamline technology integration of common systems for FVL and enduring fleets. The breadth of research and testing to inform FVL requirements and potential integration of proven common EPS technologies will have a comparable, if not further reaching, impact as other Tier 2 priorities.

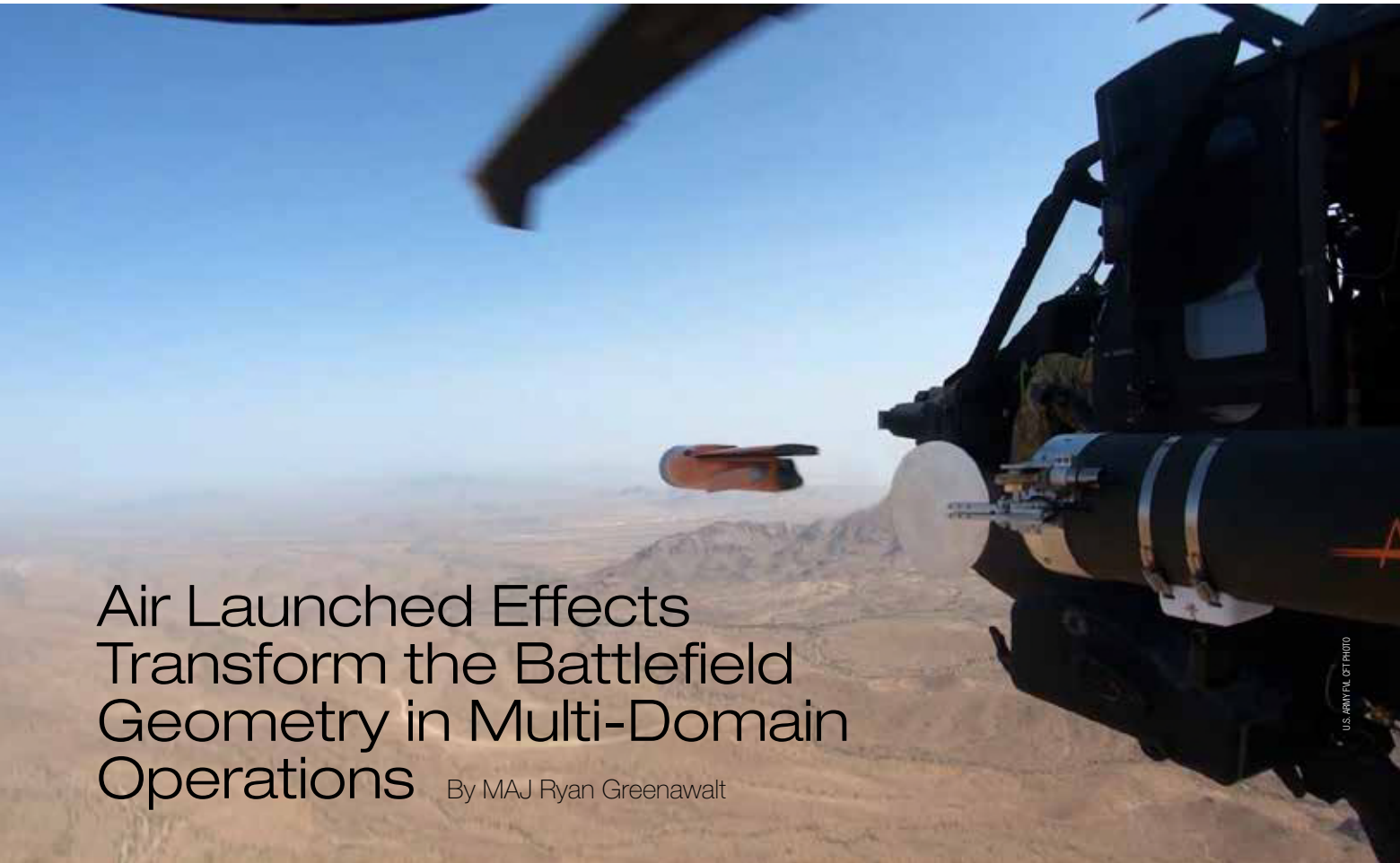
In 2020, the EPS Team has made significant headway in early research, architectural drafting, and FVL requirements development. The EPS team hosted a virtual Industry Day in May 2020 with over a dozen companies, and held follow-on collaborations. The Common Aviation Battery effort made rapid progress and will be the first EPS initiative to directly inform FVL requirements and refine battery requirements. The Common Aviation Battery effort completed Risk

Reduction Ballistic Testing in 3QFY20, and is beginning vendor kickoff events.

The Future

Whether it is the turbine engine as the heart of the aircraft or the intricate network of electrical power systems forming supplemental and emergency power, the EPS initiatives and engine programs managed by the ATE Project Office provide Army Aviation with affordable and reliable power solutions. As the ATE Project Office supports FVL and the enduring platforms, leadership maintains a long view of where vertical lift, hybrid, and electric power capability is heading based on rapid technological breakthroughs by Industry and Academia each year. With Industry partners investing a combined average of \$1 billion annually to research and develop hybrid and electric propulsion technologies, the ATE Project Office sees increasing opportunities to leverage emerging technology into Army Aviation and refine platform commonality, power, and lethality in the future MDO battlespace.

COL Roger Kuykendall is the Aviation Turbine Engines Project Manager within the Program Executive Office for Aviation, Redstone Arsenal, AL.



Air Launched Effects Transform the Battlefield Geometry in Multi-Domain Operations

By MAJ Ryan Greenawalt



Heat in excess of 110 degrees could not stop the U.S. Army Future Vertical Lift Cross-Functional Team (FVL CFT), the Combat Capabilities Development Command Aviation & Missile Center (CCDC AvMC), and Area-I's team of "in the dirt" engineers from conducting flight tests of the Agile-Launched Tactically-Integrated Unmanned System (ALTIUS) 600 during Project Convergence 2020, the U.S. Army's capstone demonstration of future warfighting capabilities in a multi-domain environment.

Development

Area-I's ALTIUS-600 is one of four revolutionary unmanned aircraft systems (UAS) that the innovative company has brought to market since its inception in 2009. The FVL CFT's interest in the ALTIUS-600 is to further inform and develop the Air Launched Effects (ALE) requirement, which along with Long-Range Precision Munitions will support the Future Attack Reconnaissance Aircraft (FARA) Ecosystem in increasing standoff, reach, and lethality on a Multi-Domain Operations battlefield. The ALE will be a modular

A UH-60 Black Hawk launches an ALTIUS-600 over Yuma Proving Ground, Arizona during Project Convergence 20.

and versatile army aviation asset with the ability to conduct numerous mission sets, to include detect, identify, locate, and report (DILR), decoy, electronic warfare disruption, and the delivery of kinetic effects. BG Walter Rugen, FVL CFT director, observed the ALTIUS-600 achieve 65 flights and 138 flight hours during testing at Project Convergence 2020. "This truly is a groundbreaking capability for army aviation, one that will dramatically improve reconnaissance and reach as well as the ability to interrupt and attack enemy integrated air defense systems in close and deep maneuver areas," he said.

The FVL CFT, CCDC AvMC, and Area-I also demonstrated the ability to perform time synchronized ALE launches from five different platforms, which included the UH-60 Black Hawk, MH-60 Seahawk, MQ-1C Gray Eagle, rail, and truck. Regarding the helicopter launches, the ALTIUS-600 UAS demonstrated proficiency at launching from a hover and at

forward airspeeds up to 90 knots all while at tactically relevant altitudes. In addition, utilizing a mesh network, the FVL CFT was able to demonstrate the simultaneous command and control of six ALEs conducting numerous missions across an approximate 60-kilometer linear distance. BG Rugen was extremely impressed with the demonstrated capability and was quick to point out that “modeling and simulations are good, but moving forward we are looking for industry partners with a hands on mentality that can actually fly, test, and provide proof of concept in a real world environment.”

Testing

In July 2019, Area-I and engineers from CCDC AvMC began initial testing of the ALE Pneumatically Integrated Launch System (PILS) at Joint Base Langley-Eustis, Virginia. A few months later, and after a major overhaul to the PILS, Area-I returned to Joint Base Langley-Eustis and successfully completed simulated test shots from a UH-60 Black Hawk External Stores Support System. Mr. Nicholas Alley, chief executive officer of Area-I, was pleased with the test results, but knew his team of engineers would have to demonstrate the ALE launcher capability in a more “real world” environment. “Our objective was to prove to army senior leaders and the warfighter that, despite our company’s smaller size, our product brings state-of-the-art aviation technology to the battlefield and will serve as a future combat multiplier,” he said. In November 2019, Alley and the ALTIUS/PILS team, in conjunction with the FVL CFT and CCDC AvMC, pushed the envelope and completed a PILS test shot series with six ALTIUS-600 UAS at Yuma Proving

Ground, Arizona. Additionally, the government and industry team of engineers collected data of the in-flight acoustic and visual signature of the ALTIUS-600 and they also tested a new prop design for increased flight endurance.

In the spring of 2020, the team returned to Yuma Proving Ground and conducted an additional 18 tactical altitude launches of the ALTIUS-600 from a UH-60M Black Hawk and PILS truck launcher. A total of 14 launches were completed from the UH-60M platform. The hover launch series consisted of eight ALE successfully launched from altitudes as high as a thousand feet Above Ground Level (AGL) all the way down to one hundred feet AGL. The moving launch series consisted of six ALE being launched starting at five hundred AGL down to one hundred feet AGL and at forward airspeeds up to 50 knots. The launches were impressive, but the FVL CFT demanded more and pushed to demonstrate integration with payloads, mission systems, and army networks. The FVL CFT’s persistence paid off, and during the spring testing, Area -I and the government were able to integrate two Hoodtech sensors, which included electro-optical and infrared, as well as a Northrop Grumman proximity fuse and warhead onto the ALTIUS-600. Beyond the payload integration, there were several other test points conducted, to include communications relay using a mesh radio network between two ALE and a UH-60M at a total distance of 30 kilometers between the farthest UAS and the manned aircraft. Lastly, the FVL CFT, CCDC AvMC, and Area-I demonstrated single airborne operator simultaneous control of four ALE during multiple area reconnaissance missions as well as a successful air-to-ground control handoff of the four ALEs.

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Future Vertical Lift and invested partners pose for a group photo during Project Convergence 20 at Yuma Proving Ground, AZ.

Project Convergence 2020

The testing journey for the FVL CFT, CCDC AvMC, and Area-I was conducted over a 12 month period and culminated with the Project Convergence 2020 capstone demonstration in September. Once again, integration was a focal point for both the FVL CFT and Area-I leadership. “Flying the ALE is exciting, but to transition this capability into a

tactical advantage for the warfighter, integration of the air vehicle, payload, mission system, and network is essential,” said BG Rugen. The team of government and Area-I engineers integrated seven different software products, which included Toyon, IST, Kutta, Arbitrator, Dead Center, Vigilant Spirit, and the Tactical Assault Kit (TAK).

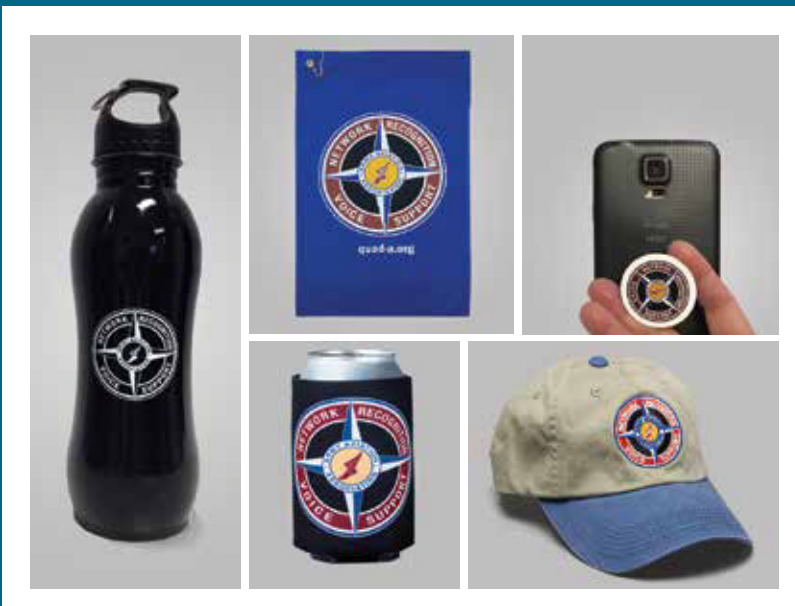
In addition to the successful software

integration, the FVL CFT and Area-I also demonstrated team-based mission planning and simultaneous command and control of multiple ALE while executing a coordinated Reconnaissance, Surveillance, and Target Acquisition mission. “We’ve come a long way since our initial PILS testing with the Army in 2019, and the long hours, sweat, and hard work in the dirt paid off during Project Convergence,” said Alley. Area-I’s work resulted in a total of 85 ALTIUS-600 launches over 180 hours of flight time.

Although the ALTIUS-600 was successful at Project Convergence 2020, Alley and the Area-I team will continue to adjust and improve the already impressive platform. “We’re extremely proud of our UAS platforms, and to say that we are honored that our work has provided value to the warfighter is an understatement, but there is always room for growth and improvement, especially when we’re developing technologies that support our nation’s best,” said Alley. BG Rugen agrees, and his organization, in direct coordination with Program Executive Office Aviation, Project Management Office Unmanned Aircraft Systems, will continue to drive forward with the mission of finding, testing, and fielding the very best ALE technology for today’s Soldier.

MAJ Ryan Greenawalt is the ALE Integrator for the Future Vertical Lift Cross-Functional Team at Redstone Arsenal, AL. He is a member of the Pennsylvania National Guard.

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CW3 Charles A. Robertson

Headquarters Company, 1st Battalion,
223rd Aviation Regiment
110th Aviation Brigade
Fort Rucker, Alabama

Few army aviators have holistically contributed to aviation combat readiness and force generation in multiple capacities as has CW3 Robertson. CW3 Robertson flew over 120 IP hours with CH-47F students in flight school; helped develop U.S. Army Aviation Center of Excellence aviation doctrine encompassing academics, flight maneuvering tasks, and branch-level standard operating procedures which directly address survivability counter-measures against near-peer adversaries in a multi-domain environment; trained combat units in advanced tactics as a mobile training team member; participated as a rotary wing subject-matter-expert in a multi-service advanced tactical exercise at Naval Air Weapons Station China Lake; and led the Getac Mission Planning System (MPS) integration across Initial Entry Rotary Wing (IERW) and CH-47F Advance Track courses. In July 2019, GEN Funk (TRADOC Commander) selected him as the TRADOC Hero of the Week for his work coordinating and executing the integration of the new MPS into the CH-47F footprint at USAACE while troubleshooting the MPS issues plaguing both TRADOC and FORSCOM units. As the battalion TACOPS/AMSO and instructor pilot, CW3 Robertson impacted USAACE, EAATS, WAATS, Army Reserve Aviation Command, Army National Guard and FORSCOM. His branch focus and dedication to the survivability of all Army aircraft make him absolutely the winner of the 2020 AAAA Aircraft Survivability Equipment Award.

Christopher M. Allgaier Aviation Mission Survivability Officer Award

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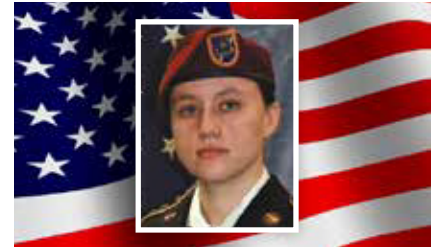
CW4 Sean M. Martin

Headquarters and Headquarters
Company
101st Combat Aviation Brigade
Fort Campbell, Kentucky

CW4 Sean M. Martin has proven that he is a professional without peer. After a Counterinsurgency / Counter-terrorism deployment and four separate deployments to four theaters, primarily focused on Large Scale Combat Operations, he made a marked impact on the brigade's ability to function against near-peer threats. The CAB Commander hand-selected him to lead training and implementation of 2900-series tasks, a FORSCOM Aviation Readiness Management Survey (ARMS), and an inspection from the Directorate of Evaluations and Standards (DES). CW4 Martin set the conditions for two standard-setting National Training Center rotations and helped to shape the U.S. Forces Command 2020 Aviation Business Rules that will shape how Army Aviators train across the Aviation Enterprise for the next several years. His technical and tactical knowledge as an AMSO allowed the 101st CAB to conduct a Warfighter exercise with devastating effects on the Opposing Force, while simultaneously preparing for deployments to the Republic of Korea, Kuwait, Afghanistan, and Europe. CW4 Martin continuously strives for excellence as an AMSO through constant communication with the other AMSOs in the 101 CAB and throughout the Army. CW4 Martin's passion, professionalism, expertise, and tenacity continue to set the standard for AMS programs clearly earning him the Army Aviation Association of America's Aviation Mission Survivability Officer Award for 2020.

Avionics Award

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SPC Darian Billowitz

Company D, 2nd Battalion,
160th Special Operations Aviation Regiment
(Airborne)
Fort Campbell, Kentucky

SPC Billowitz has proven her mettle and dedication to professional support without equal. From 30 June 2019 to 1 July 2020, she completed two CENTCOM deployments in support of Operation INHERENT RESOLVE and Operation FREEDOM's SENTINEL. Also, she led three CONUS TDY events as the avionics NCOIC. Her efforts included launch support for 79 missions totaling 350 flight hours across three Mission Design Series (MDS). During combat and garrison operations, she completed 684 faults, totaling 1,200 maintenance man hours. Her mentorship resulted in three Soldiers in her platoon earning Basic Mission Qualified (BMQ) status by utilizing intuitive and doctrinal lessons learned. SPC Billowitz's training initiative increased company deployed readiness by 20%. She worked diligently to develop wiring diagrams to supplement current manuals which were subsequently adopted by civilian resourcing agencies for permanent implementation. She earned Fully Mission Qualified (FMQ) status on two MDSs in just 19 months, five months earlier than expected. Her remarkable achievements as a result of her competence and character earned laudable comments from her platoon sergeant, first sergeant, and commander. SPC Billowitz is a top tier Soldier, technician, and leader who is absolutely deserving of the 2020 Army Aviation Association of America Avionics Award.

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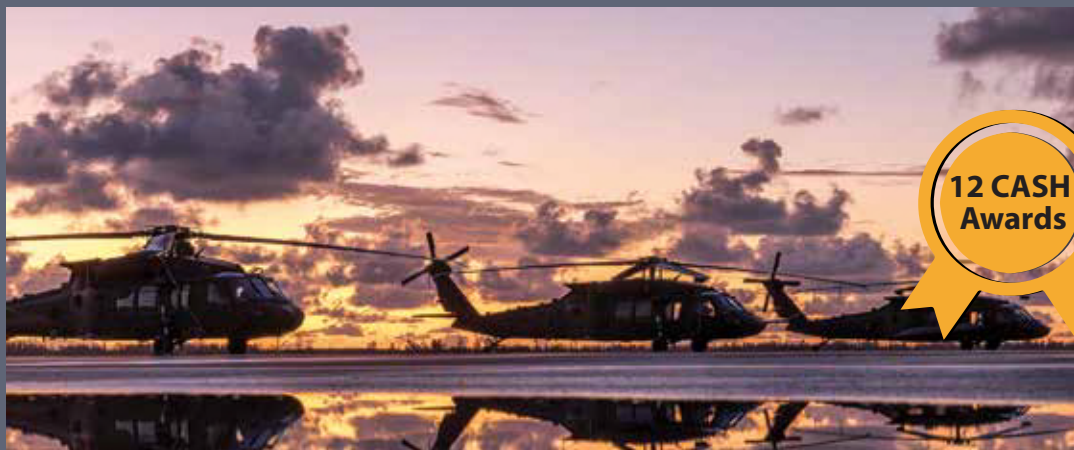
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55 Years Ago, Ia Drang – Part II: LZ X-ray

By Mark Albertson



Editor's Note: This is the final article commemorating the 55th Anniversary of the Battle of Ia Drang, Vietnam. Part I was published in the November 30, 2020 issue.

November 14, 1965:

MAJ Crandall asked for volunteers to fly in needed supplies, evacuate wounded and bring in reinforcements. "Tactical air flew missions throughout the night and the Air Force flare ship maintained constant illumination of the battle area. Pilots of the lift ships braved the dangers of the fire swept Landing Zone to bring in reinforcements and re-supply and carry out wounded and dead."¹

LTC Moore's request for reinforcements was answered with the commitment of B Company, 2nd Battalion, 7th Cavalry, helicoptered into the LZ at 1800 hours. These fresh cavalymen helped to stiffen the perimeter for the night.

November 15, 1965:

0650, several companies of NVA assaulted the perimeter manned by C Co.. D Co. came under attack at 0715, followed by A Co. at 0800. General Chu Huy Man, it seemed, was eager to liquidate the pocket. Elimination of the abscess would prove a blow to American prestige and even undermine the Saigon government. The political stakes for Moore were heavy.²

D Company halted NVA assaults, supported by artillery and air strikes. B/2-7th CAV, helicoptered in the evening

Elements of 1st Battalion, 7th Cavalry, debarking at Landing Zone X-Ray for battle in the Ia Drang Valley, November 14, 1965.

before, was thrown into the breach to bolster C Company. A/2-7th CAV, ready to be flown in, was held up due to the early morning attacks on X-Ray. Airstrikes and tube artillery lent needed support to break up General Man's attempt to liquidate the pocket. And by 0900, the LZ was considered secure enough for A Co. to be committed.

2nd Battalion, 5th Cavalry arrived at X-Ray at 1200 hours, having trekked in from LZ Victor. Meanwhile A and C Companies, 5th Cavalry, launched an attack at 1315 hours to relieve the surrounded platoon. At 1510 hours, relief was effected.³ Moore's men pulled back to the pocket; perimeter defenses were bolstered for another night of attacks.⁴

During the closing hours of the 15th, CH-47 Chinooks of the 228th Assault Support Helicopter Bn. continued to resupply Falcon and Columbus to keep the tube artillery well stocked. UH-1Ds from Crandall's 229th AHB maintained X-Ray, flying in fresh bodies and supplies and evacuating wounded. Air Force fighter-bombers maintained a constant readiness to support Moore's pocket, "with a fighter-bomber on a target run on an average of one every 15 minutes throughout the period."⁵

"Tube artillery fired more than 6,000 rounds of high explosives into the defensive perimeter area and aerial artillery

contributed nearly 2,000 rockets to the fire barrier.”⁶

“At approximately 0400 hours, the enemy began probing the B/2-7th CAV sector. At 0422 hours a force of 250-300 enemy attacked B Company...

“The route of attack was from the southeast... flare ship illumination was called for and continuous until 0545 hours. The attack was beaten back by small arms and artillery fires. At 0431 hours another attack by 200 enemy in on B Company... Each time a flare would light up, the enemy would hit the ground or fall back to the trees. The artillery took a heavy toll. There were four batteries firing. The Peoples Army of Vietnam (PAVN) could be seen dragging off numerous bodies. By 0503 hours, the weight of his attack had been shifted more to the southwest with approximately 100 enemy attacking. This was repulsed by 0535. At 0550 hours, the flare ship ran out of flares. Artillery illumination was then employed. The mortars of both battalions had been firing high explosives (HE) since the attack began. At 0641 hours the enemy was beaten and was dragging off bodies under fire. B Company had performed magnificently and had suffered only 6 lightly wounded.”⁷

Moore immediately hit back. Cavalrymen along the perimeter saturated the jungle line with small arms and automatic weapons fire. This was followed by a sweep, out to 500 meters. The spoiling attack was interrupted when B/2-7th CAV, came under enemy fire. All units, then, retired to the perimeter. Airstrikes and tube artillery took up the slack. After which cavalrymen again fanned out to resume the sweep. With the resulting lull, the rest of 2nd Battalion, 7th Cavalry was flown in and 1st battalion, 7th Cavalry was helicoptered out.

Yet X-Ray was not the end of the fighting during the Pleiku campaign.

November 17

2-7th CAV, joined battle with North Vietnamese troops several miles north of X-Ray at LZ Albany. While General Man was withdrawing his forces from the field, 7th Cavalry was demonstrating that ability of airmobile troops to pursue an enemy army, see to its destruction or forcing it to surrender. In the ensuing engagement, Americans battled with PAVN troops in a short vicious contest that resulted in 403 NVA and 151 American dead.

The NVA continued its withdrawal towards the Cambodian border. Tactical air and B-52 strikes made sure that General Man's evacuation from the Ia Drang Valley was not without incident.

Casualties at LZ X-Ray, November 14-16, were 79 cavalrymen killed and 121 wounded; while NVA losses were 634 killed and 1,215 wounded, and 6 prisoners. Airmobility enabled well-trained and committed conventional troops to perform as insurgents; that is, to attack the enemy's rear and to be able to move when appropriate. Or as Sun Tzu offered, “The first essential of military operations is to preserve one's own forces and annihilate the enemy, and to attain this end it is necessary to... avoid all passive and inflexible methods.”⁸ Airmobility is hardly an inflexible method and the ability to preserve one's own forces was certainly seen through the use of the helicopter. Indeed, as LTC Moore later said, “I have the highest admiration, praise and respect for the outstanding professionalism and courage of the UH-1D pilots and crews who ran a gauntlet of enemy fire time after time to help us.

“They never refused to come in; they followed instructions beautifully; they were great.”

ENDNOTES:

1 - See page 141, “14 November, 1. Operations Summary, Operations Report, Lessons Learned, Report 3-66, The Pleiku Campaign.”

2 - The plight of Task Force Smith at Osan, Korea, July 5, 1950, offers a case in point. Many in LTC Charles Bard Smith's unit were half-trained, unprepared “soldiers” pitted against an army, North Koreans, many of whom had a rich combat experience fighting with Mao Tse-Tung during World War II in China against the invading Japanese and Chiang Kai-shek's Nationalist armies. LTC Harold Moore was not saddled with a unit of half-trained conscripts; in addition to being better supplied and equipped. But make no mistake of the political consequences that could have resulted if General Man had won the encounter at X-Ray. To which must be added the expected Air Force criticism of the Army's doctrine of Airmobility.

3 - See page 15, VI. The Relief of the Surrounded 2nd Platoon, Company B, and the Redisposition of the Perimeter, “After Action Report, 7th Cavalry, 14-16 November 1965,” Headquarters, 1st Battalion, 7th Cavalry, 1st Cavalry Division (Airmobile).

4 - See pages 30 and 31, “The Battle of X-Ray,” by Captain Robert H. Edwards.

5 - See page 151, “15 November, 1. Operations Summary, Operations Report, Lessons Learned, Report, 3-66.”

6 - See page 151, *ibid.*

7 - See page 16, VII, Enemy Night Attack, 0400-0630 Hours, 16 Nov., “After Action Report, Ia Drang Valley Operation, 1st Battalion, 7th Cavalry, 14-16 November 1965,” Headquarters, 1st Battalion, 7th Cavalry, 1st Cavalry Division (Airmobile).

8 - See page 51, Chapter VI, “Sun Tzu and Mao Tse-Tung,” *The Art of War*, by Sun Tzu.

Mark Albertson is the award-winning Army Aviation Publications Historian and a contributing editor to ARMY AVIATION magazine.

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AAAA VP National Guard & Reserve Affairs

By MG Lester D. Eisner, U.S. Army Retired

Confronting the Enemy: COVID-19 Meeting the Challenge and Maintaining Readiness

Army Aviation leaders and soldiers at all levels should be very proud of their demonstrated ability to maintain training standards and critical mission capabilities while dealing with COVID-19 and its negative impacts.

The implications and impacts of COVID-19 on Army Aviation individual and collective readiness continue to challenge Aviation leaders at all levels and will for the foreseeable future. There are many challenges such as COVID-19 mask protocols, cleaning and disinfecting aircraft before and after flight operations, cancellation of key training events, and impacts to their soldiers and family members. The strategies used to mitigate the impact of COVID-19 by our Army National Guard Aviation leadership provide important lessons learned for Army leadership now and for the future.

The exceptional bravery and superb skills demonstrated by seven Army National Guard Aviation professionals, part of the 40th Combat Aviation Brigade, California Army National Guard's response to major forest fires, on September 5, 2020, is a shining example of how Army National Guard Aviation leaders have overcome the impacts of COVID-19 and maintained critical mission capabilities. COL David Hall, commander of the 40th Combat Aviation Brigade (CAB)



CALIFORNIA NATIONAL GUARD PHOTO

and California State Aviation Officer, describes the professionalism and skills displayed by 40th CAB Aviation professionals during a complex and extremely dangerous rescue operation. He states, "There is probably no better example of our ability to maintain crew proficiency in a COVID environment than our response to the Mammoth Pool's rescue. While enjoying their own holiday weekend, leaders and aviation crews were notified of a mission to rescue 30 families that were about to be overrun by a fast-moving Creek fire. In less than two and a half hours, the teams commuted to work, prepped their aircraft, and departed on what would become a multi-ship NVG rescue mission in extreme fire and smoky conditions. The crews pushed

the limits of the aircraft due to heavy loads and hot temperatures, while dealing with visibilities at times of less than one half of a mile. Extended duty days operating in these conditions increased the risk to the extremely high level. As the scale of the evacuation grew, operations, medical and supply personnel quickly assembled in order to create a MASCAL and reintegration site for the evacuees. In less than 72 hours, TF Phoenix, built and executed complex Joint/Interagency operations that would ultimately evacuate 396 personnel." As a result of these actions on September 5, 2020 seven California Army National Guard Aviation professionals were presented the Distinguished Flying Cross, by the President of the United States.

Training Challenges

What are some of the challenges and hurdles that Army National Guard Aviation, and in general Army Aviation leaders, have had to overcome to maintain training standards at the individual and collective level? At the macro level, cancellation of thousands of school quotas has long term implications on individual and unit readiness. LTG Jon Jensen, the Director of the Army National Guard, is quoted as saying, "there is no secret that COVID-19 restrictions have had an impact on the Forces individual and collective readiness." He cites over 18,000 professional military education, skill and functional schools and military occupational specialty school slots lost this year due to COVID. The ARNG Aviation leadership will have to adapt and overcome these training shortfalls for the foreseeable future.

The complex challenges facing Aviation commanders and leaders at the tactical and operational level during COVID-19 are numerous. The first challenge facing leadership is how to maintain individual readiness with COVID restrictions. The fact that many ARNG Aviation soldiers and aircrew members have been unemployed due to COVID-19 has allowed Aviation leadership to bring ARNG Aviation soldiers on duty to reinforce their skills in maintenance, support or actual flight operations. Commanders have had to quickly readjust critical Aviation training to mitigate the loss of individual readiness. This has been sometimes impacted by reduced resourcing and competing priorities at the unit level, further complicating the challenges to maintain critical individual skills. The strategies include prioritization of critical readiness level progression, training new unit instructor pilots, prioritizing simulation training, and focus key maintenance activities that produce mission ready aircraft.

The second major challenge facing Army and ARNG leadership is how to conduct complex Aviation collective training when such graduate level events, such as NTC rotations, JRTC, XCTC events planned years in advanced were canceled due to COVID-19. Army National Guard Aviation Leaders have adapted in order to maintain acceptable collective training by utilizing smaller scale, home station or regional train-

Phase III Live Force on Force Training



- The AH-64's from the 151st conducted multiple TTP's to practice a "find, fix, finish" process of both air defense sites and a simulated high value target
- The air defense assets from the 263rd deployed to realistic field locations, employed visual cover, and practiced the "find, fix, finish" process against the live aviation threat
- Having real assets to test planning, equipment and TTP's cannot be replaced. This exercise was a true bi-lateral training event

ing with multiple ARNG units and Air National Guard units. These local training events, such as SCARNG Aviation conducting exercises with organic theater level Air Defense ground units, have allowed acceptable collective training skills to be maintained as well as reinforcing aviation survivability skills in the surface to air environment. The ARNG Aviation unit training plans tied to unit METL tasks must be adaptable and flexible as conditions for training change at a moment's notice.. ARNG leadership has learned a valuable lesson, have a backup plan.

With these challenges we must begin to reevaluate the role of simulation to maintain individual and collective skills. As our Aviation and ground weapons systems get more complex and lethal with extended ranges, we must leverage simulation to train at the leader, individual and collective level. Our future simulation suites must be networked from multiple locations, allowing individual aviation tasks to be trained, while be driven by collective simulation scenarios. Our Aviation leaders need to better understand the long lines of support that are required for Army Aviation.

Our superb Aviation leaders cannot fall into the trap that external events always drive collective training. Army Aviation leadership at all levels, must

continue to prioritize available assets and review individual and collective training capabilities to ensure training standards are met.

The current system of how we compensate Aviation Career Incentive Pay (ACIP) to our Reserve Component aircrew members must be reviewed and changed to one method of monthly ACIP payment like the Active Component. The current system of ACIP for Reserve Component Aviation members is antiquated; resource constrained and does not efficiently support individual and collective training standards that must be met by today's Reserve Component Aviation team.

Army Aviation has the well-deserved and hard-earned reputation of always being ready regardless of task or the mission at hand. This article would not have been possible without the invaluable and key input from BG Ray Davis and the NGB Aviation Division, the North Carolina Army National Guard Aviation team, the South Carolina Army National Guard Aviation team and COL David Hall, 40th CAB Commander and the California Aviation team.

MG (Ret.) Lester D. Eisner is the Vice President for National Guard and Reserve Affairs of the Army Aviation Association of America.



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AAAA Chapter Affairs

By LTC (Ret.) Jan Drabczuk

I greatly appreciate the support from MAJ William "Tito" Carrion II, Vice President of the High Desert Chapter for authorizing and sharing this information to our membership.

The High Desert Chapter

The National Training Center (NTC) was established in 1980 and is located deep in the heart of the Mojave Desert at Fort Irwin, California.

NTC was established in order to provide tough, realistic combat training under the most stressful situations possible outside of combat. In 1984 an eight-man Observer Coach (OC) team was added to evaluate the performance of Aviation units as they conducted training at the National Training Center. This small group of Soldiers laid the foundation for the current group of Army Aviators assigned to the 2916th Aviation Battalion, Eagle Team Flight Detachment and over 70 Eagle Team Observer Coach/Trainers (OC/Ts).

The High Desert Chapter of AAAA was established on 29 September 2009 with just a few members but has increased its membership and activities over the past several years currently boasting a membership of 63 individuals and rising. The High Desert Chapter preserves and fosters a spirit of good fellowship among active duty military, retirees and civilian personnel whose past or current duties affiliate them with the field of US Army Aviation or its allied pursuits

Eagle Team

Eagle Team OC/Ts cover an average of 10 NTC rotations a year. Each of these rotations come with a unique mix of manned and unmanned aircraft assigned to various Aviation Task Forces from throughout the Army. The Soldiers assigned to Eagle Team are well versed in Aviation doctrine and considered among the best in Army Aviation. Eagle Team currently utilizes a fleet of 9 LUH-72 aircraft to provide 24-hour OC/T coverage for training units. These aviators must be technical and tactical experts ready to provide doctrine-based solutions for rotational training units (RTUs). The terrain and weather associ-

ated with the National Training Center is challenging for the most experienced of Army aviators, but the Eagle Team flight detachment provides uninterrupted rotational support under the most grueling of circumstances.

2916th

The 2916th Aviation Battalion, "Raptors," is a unique organization comprised of UH-60, LUH-72, and MQ-1C airframes that provide nearly every facet of Army Aviation to the National Training Center at Fort Irwin. Their efforts expand the lethality of the Ground Force Commander by training and supporting the Warfighter. The 2916th delivers general aviation support, air assault, aeromedical evacuation, unmanned aircraft system operations, and attack/threat aviation recon that replicate near-peer adversaries. The Raptor battalion consists of four TDA companies and one MTOE unit: Headquarters and Headquarters Company "Griffins," Alpha Company "Desert Hawks," Bravo Company "Sokol," Charlie Company "Desert Dustoff," and Bravo 229th Aviation Regiment "Flying Tigers."

Chapter Activities

Chapter members participated in the final flight of the remaining OH-58s in the Army inventory. The historic flyover took place over Fort Irwin California on 29 September 2020. This last flight also heralded a new Chapter in NTC Aviation as a flight of LUH-72 Lakota followed the OH-58s symbolizing their arrival as the new aerial platform for NTC operations.

The High Desert Chapter holds monthly meetings between NTC training rotations plus an annual Golf tourna-



ment. This year's event is in Apple Valley, California and will consist of over 60 participants and several local businesses supporting the High Desert AAAA.

The Chapter awarded several Orders of Saint Michael and Knights of Saint Michael over the past year. The aviators assigned to Eagle Team, 2916th and the National Training Center make lasting impacts on RTUs as well as provide valuable feedback to the Army Aviation Enterprise through various outreach programs.

The High Desert Chapter is continuously seeking guest speakers who can provide quality insight about the future of Army Aviation as well as Aviation advancements. Additionally, they are actively advertising their scholarship program and continually on the lookout for qualified family members or Soldiers.

Summary

Although relatively young and small compared to other AAAA organizations the members of the High Desert Chapter make significant impacts to Army Aviation and its employment in combat. The High Desert Chapter will continue to promote Army Aviation and its history to the local community in the Mojave Desert and California. The Chapter plans to expand and continue to provide support and information to its members and their families.

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

ORDER OF ST. MICHAEL INDUCTEES

Air Assault Chapter

1SG Joseph Riddle B Co., 6-101st Avn. Regt. first sergeant, was inducted into the Bronze Honorable Order of St. Michael by company commander, CPT Kyle Amonson, during a company Halloween Hail and Farewell at Ft. Campbell, KY on Oct. 24. Riddle was recognized for his outstanding achievement during his fifth tour as an Aviation company first sergeant throughout FORSCOM and TRADOC.

Aviation Center Chapter



CHAPTER PHOTO BY 1SG JOSHUA GARY

From left to right, **SFC Jeffrey A. Holt**, **1SG Joshua E. Ricketts**, and **SFC Jamie Rivera-Cintrón**, all assigned to the U.S. Army Aviation Center of Excellence (USAACE) Noncommissioned Officer Academy, are inducted into the Bronze Honorable Order of St. Michael during a Sept. 11 ceremony at Ft. Rucker, AL, by NCO Academy Commandant, CSM James Hall. Holt was recognized for his achievements as development cell NCOIC over 3 years; Ricketts for 2 years of accomplishments as Training 1SG; and Rivera-Cintrón for achievements as Maintenance Small Group Leader over 3 years.



CHAPTER PHOTO BY MR. GUS WHITE

SFC (Ret.) Jamil Wilson (right), NCOIC of the USAACE Directorate of Simulation, is inducted into the Bronze Honorable Order of St. Michael by Mr. Wade Becnel, DOS deputy director, during a Sept. 22 ceremony at Ft. Rucker, AL. Wilson was recognized for his

outstanding execution of his responsibilities for the Directorate's support of 12 Programs of Instruction (POIs) and Professional Military Education (PME) Courses across the Fort Rucker installation. He has monitored and supported over 750 branch-critical simulation exercises involving more than 15,000 Aviation students between the ranks of private through major.

Jimmy Doolittle Chapter



CHAPTER PHOTOS BY GREG WILLIAMS, CARLSON

Left to right: **1SG (Ret.) Neal Ayers, CW4 Joel Gooch**, and **CW5 Hayward Lindler** are inducted into the Bronze Honorable Order of St. Michael by South Carolina National Guard State Army Aviation Officer, LTC John W. McElveen, during a first quarter FY21 Chapter Gathering at Hamilton Owens Airport, Columbia, SC, Oct. 17. Assigned to McEntire Joint National Guard Base in Eastover, Ayers, a retired D Co., 1-151st ARB First Sergeant; Gooch, 1-151st ARB Master Gunner; and Lindler, 59th Avn. Troop Command Safety Officer, were all recognized for their dedicated support to Army Aviation. At the same ceremony, **SFC Stephen Snodgrass**, SC Joint Force Headquarters Medical Readiness NCO was inducted as a Knight of the Honorable Order of St. Michael.

Tennessee Valley Chapter



CHAPTER PHOTO BY NATHAN LEISON

CW5 Jared and **COL Josephine "Jo" Thompson** were inducted into the Silver Honorable Order of St. Michael on Sept. 16 at Redstone Army Aviation Flight Test Directorate following their final flight on a UH-60V and their dual retirement ceremony by COL

Steve Braddom on behalf of BG Rob Barrie, PEO Aviation. With a combined 47 years of service and more than 6,700 flight hours, to include combat, Jared is one of only six CW5 experimental test pilots in the Army and most recently served as the senior warrant officer and as an experimental test pilot for AFTD. Jo is considered the active Army's second most senior MEDEVAC acquisition officer and is one of only two female MEDEVAC colonels, 67Js, actively serving in the Army. She most recently served with distinction as the Utility Helicopter Project Office MEDEVAC Program Manager. Pictured are (l to r) Mary Wilkenson (Jo Thompson's sister), COL Thompson, CW5 Thompson, Jacoby Thompson, Jorja Thompson, and Jocilen Thompson.



CHAPTER PHOTO BY DEBRA TROVER

COL David A. Warnick, Project Manager, Tactical Aviation and Ground Munitions, is inducted into the Silver Honorable Order of St. Michael, by LTC (Ret.) Jason Galindo, Chapter VP Operations, at an Oct. 14 retirement ceremony at Bob Jones Auditorium, Sparkman Complex, Redstone Arsenal, AL. Warnick was recognized for his more than 28 years of dedicated service.



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AAAA Membership Update

By CW4 Becki Chambers

The Membership Corner

CW5 Mike “Poodles” Behrendt is the Command Chief Warrant Officer (CCWO) for The U.S. Army Aviation Brigade (TAAB) at Ft Belvoir, VA.

TAAB is a multi-compo Brigade with the 12th AV BN, U.S. Army Priority Air Transport (USAPAT), and Operation Support Airlift-Activity (OSA-A), and flies the U/VH-60L/M, C-12V, UC-35A/B, C-37A/B aircraft supporting NORTHCOM contingency operations, consequence management, and senior leader executive/non-executive travel for the National Capital Region (NCR) and the Military District of Washington (MDW).

Mike was born in Detroit, MI, but grew up in Scottsdale, AZ and went to Arizona State University before joining the Navy. He finished his bachelor’s degree in management through Excelsior College.

CW5 Behrendt started his first six years in the military as a Cryptographic Analyst for the Navy. However, he always wanted to fly, so he put in an inter-service transfer packet and was selected for the Warrant Officer Flight Training program. Mr. Behrendt has served in multiple units as the Aviation Mission Survivability Officer throughout his career, deploying over 18 times in support of Special Operations. CW5 Behrendt was also selected to be the DES representative during the RF tactics testing events at China Lake.

CW5 Behrendt has been married for over 23 years to Masako Behrendt who he met while stationed in Okinawa, Japan, and they have two Toy Poodles and an F1 Savannah Cat.

Mike understands that he and his wife have been very blessed, and they have always tried to give back. A few months ago, he shared something on Facebook he had done, hoping others might do something similar. Workers were changing all the lights out in his on-post home. Mike grabbed some envelopes and about \$90 in cash, wrote out some questions, filled each envelope with a question and cash, and set off to find the youngest person in this crew of workers. He asked the worker the questions, some of which he needed to “phone a friend” to get the right answer. The worker’s surprise and happiness were apparent when he opened the first envelope (\$1) and said, “Cool! I’ll get a soda.” Then he continued to answer questions and open envelopes until the last one which had a \$50 bill in it. Mike’s intention was always to give the worker all the money, so he allowed the worker to “phone” as many friends as he needed. All the worker’s friends were both happy and jealous for/of him, one even exclaiming that he was going to be the youngest the next day. Hopefully, this act of kindness made a small difference in the worker’s life. As you are reading this article during the Holidays, Mike hopes



that it will inspire you to look around your community and find a similar way to share your blessings with others.

CW5 Behrendt has had many great leaders to emulate. CW5 (RET) Rex Finley stood above all others. While at 16th CAB, CW5 Finley was the CCWO and he had a laser focus on team building and putting the “Right” person in a job and not just the “next” person. A true professional in every step of the way and a servant leader to attempt to emulate.

When asked why it’s important to join a professional organization such as Quad A, Mike answered: “Army Aviation is a profession, and the Army Aviation Association of America is our professional organization. Quad-A is not just here for officers, it is for all ranks in Aviation. Quad-A is not only a networking organization, but also our advocate within the National Capital Region. As professionals, we should be a member of our professional organization.”

CW4 Becki Chambers
AAAA Vice President for Membership



New AAAA Life Members

Aloha Chapter

MAJ Michael Sudweeks

Black Knights Chapter

COL Nicholas H. Gist

Colonial Virginia Chapter

COL Woodard B. Hopkins, III
SSG Anthony Pierre Santiago

Great Lakes Chapter

CW2 Christopher S. Sensing

Greater Atlanta Chapter

LTC Cameron Sutherland

Zia Chapter

Wayne F. Smith

New AAAA Members

Aloha Chapter

CPT Adrian Hill

SGT Sarah Sangster

Arizona Chapter

Mr. Ryan Albertsen

Marcel "Marc" Van Robaeyes

Aviation Center Chapter

Jose Boccalandro

Monica Clayton

Jason Godwin

Meredith Godwin

Mike Larkin

MSG Mary Locklear

Lonnie Martin

COL Jim Muskopf

CW5 Casey W. Peterson

CW3 Nathaniel Willard

CW3 Eric Williams

Bavarian Chapter

SFC Charles Edward Smith

Black Knights Chapter

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Cedar Rapids Chapter

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CW5 Paul Thede

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Sheri Haisten

PFC Nicholas James Hanlon

PVT Charles M. Heffner

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Connecticut Chapter

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Jim Andrews

Corpus Christi Chapter

Samuel Garcia

Cowboy Chapter

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SSG Kenneth Mason

CPT Ronald Mills

Flying Gator Chapter

Ray Whaley, Jr.

Frontier Army Chapter

SPC Hollis Nicholas Joslin

Gold Standard Chapter

CW4 Heather Gonzales

Great Lakes Chapter

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Cody Lane Powell

Grizzly Chapter

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SFC Andrew Six

Idaho Snake River Chapter

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Iron Mike Chapter

CW3 Kyle Antonson

SGT Denzel Bissell-Young

PV2 Ryan Nathaniel Neff

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Paul Restine

Jimmy Doolittle Chapter

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2LT Chase Blackwell

WO1 James Foster

PFC Nathan Roldan

Keystone Chapter

WO1 Nicholas Davis

Land of Lincoln Chapter

SGT David Shrum

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Magnolia Chapter

Brian Anderson

Mid-Atlantic Chapter

Frances R. Bodrucki

LaMarr Hill

Brian McFadden

Minuteman Chapter

COL Norbert Johnston

Morning Calm Chapter

1SG Jeremy Bybee

SGM Justin Hood

Steve Wahlig

Mount Rainier Chapter

SPC Christopher Ledesma

PV2 Dyland David Schwab

Narragansett Bay Chapter

SPC Jeremiah Richard Burch

Gene Lambrecht

No Chapter Affiliation

PFC Manuel F.Echeverry

SGT Kimberly Pace

Fraser Rankin

Kyle Rumschlag

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CW3 Craig Sheley

Phantom Corps Chapter

SSG Cory King

Pikes Peak Chapter

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PV2 Garrett Victor Jones

Southern California Chapter

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PFC Stephen J. Rousselet

Dean Rowley

Jon Semancik

Adam Wells

PV2 Eder I. Zamudio

Tarheel Chapter

PVT Robert Stringer

Tennessee Valley Chapter

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Stephen Benefield

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Lara Butler

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Clay Coleman

Gary Eldridge

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Gregory Engle

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Joe Green

Mark Halpin

Rex Horner

Jacquelyn Langhout

Melissa Lee

Julie Legg

Tiffany Lisowski

Scott McDaniel

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PFC Brandon Warren

Thunderbird Chapter

PV2 Brandon T. Beasley

PFC Zachary Austin Pearson

Washington-Potomac Chapter

Elfy Barbery

Kevin Coleman

Kavita Dawson

CPT Horace Dempsey

Yinka Lanionu

Matthew May

Alejandro Orellana

Paola Peredo

Tamara Wilhite

Wright Brothers Chapter

PV2 Xyndra Pugh

PV2 Jonathan C. Smith

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MAJ James E. Bruckart

Mr. E. W. Cavanaugh

LTC Richard G. Cercone Jr.

LTC Tzu-Shan Chang

COL James A. Coar, Ret.

MAJ Harry L. Connors Jr. Ret.

Bruno Cussigh

SGT Travis Bonham Darnell

Kirk Flitte

2LT Arthur W. Galloway

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MAJ Gregory W. Glover

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Mr. Allen E. Jants

CW3 Jeffrey J. Jelonek

MAJ Gregory R. Jenkins

MAJ David A. Jobe

LTC Peter D. Kowal

CW3 Vladimir Kultschizky

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SPC Robert W. Miller

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LTC Friedrich Stern

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WO1 Armando B. Torres

MAJ L.D. Walker

Rose Weast



AAA Family Forum

By Judy Konitzer

Recap from the AUSA 2020 Annual Meeting

I normally get to attend Family Forum events at this meeting in Washington, DC, but this year I attended them from my home because it was “virtual.”

It was held on October 13-16 and you can view presentations “On Demand” at AUSA.org, then link to Meetings and Events.

AUSA presented National Awards honoring individuals for their selfless service and unparalleled accomplishments to the Army and its Soldiers during the current year.

GEN (Ret.) Richard and Vicki Cody were among these recipients, and we congratulate and thank them for their continued commitment.

AUSA also bestowed its highest award, the George Catlett Marshall Medal to individuals who epitomize distinguished public service, and symbolically presented it to The Army Family (spouses, parents, siblings, children and loved ones). GEN (Ret.) Carter Ham, AUSA President, said, “Our intent is to recognize and celebrate the great diversity and strength our families provide, and to document the fact that the Army’s strength depends on the solid, unshakeable, enduring foundation that Army families provide.” Army Chief of Staff GEN James McConville joined the celebration saying to families, “Because of you, we are Army Strong.” And SMA Michael Grinston said he, “...and many Soldiers would not be serving if not for the support of their families.”

At the Army Senior Leader Town Hall meeting, Secretary of the Army Ryan McCarthy joined with collective remarks and answers to questions that confirm they heard you and it is a “compelling stress on this institution to give you the quality of life you deserve.” Five initiatives involving housing, health care, spousal employment, PCS moves, and childcare and youth services are being addressed at all levels with increasing scrutiny, accountability, and action plans.

Housing has been a major concern and in trying to rebuild trust, \$2.8 billion is allocated to revitalizing, tearing down, or building new homes over the next 5 years, and up to \$9 billion for barracks improvements over the next 10 years. Meeting with investors and banks and getting feedback from Soldiers and families is helping to determine how to best spend the money.

Health Care – there has been an increase in successful virtual appointments at facilities due to Covid-19, but leaders need to continue to make sure Soldiers are getting the care they need, and if not, get it up to the appropriate level.

Spouse Employment initiatives are under development that

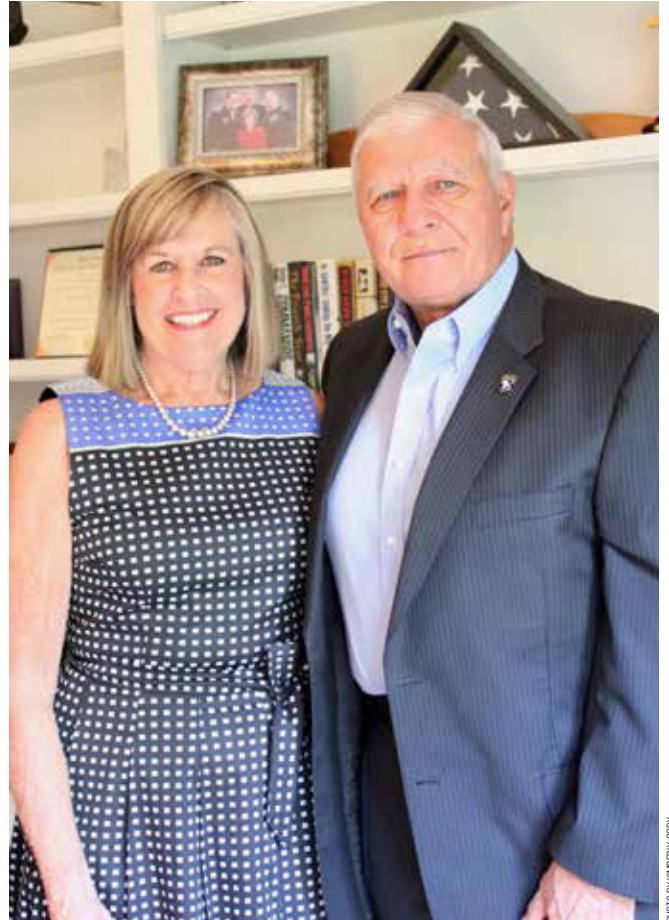


PHOTO BY KATHERINE CODY

The GEN Creighton W. Abrams Medal for exceptional service to the U.S. Army was awarded to GEN (Ret.) Richard and Vicki Cody at the 2020 AUSA Annual Meeting held “virtually” on October 13-16 in Washington DC.

would make it easier for commanders to hire spouses for federal jobs, increase the ability of spouses to continue to work during moves to new assignments, and allow military spouses to exercise preferences 30-45 days prior to going to an overseas location. The Army Quality of Life website www.army.mil is a resource for families that includes a section dedicated to Army spouse employment. Users can click the icons to find more than 50 links to resources and information, such as support for home based businesses, licensure reimbursement (currently up to \$1,000), telework education and scholarships, and points of contact for civilian personnel advisory centers. The site also has general info about the federal employment process, the Military Spouse Non-Competitive Appointing Authority and at usajobs.gov military spouses get priority consideration when they apply for a DoD vacancy. Current

in demand jobs include Business Management, Human Resources, and Public Relations.

PCS Moves – Senior leadership is continuing to study how to provide more stability for Soldiers and families with longer tours while still being able to meet the needs of the Soldier with the Army’s mission. They have also tried to improve the actual moving experience by encouraging you to take back control of your move by using the official *move.mil*. Noteworthy is filing claims have also been increased from 75 to 180 days.

Child Care – There are priority levels at Child Development Centers with single and dual military having preference and they must be offered a space within 45 days. The need to increase providers also opens opportunities for spousal employment with subsidies offered for starting up home child-care costs, i.e. paid training, insurance, toys, and extra incentive for infants/toddlers and special needs. *Military child care.com* provides more info.

In addition, the educational challenges associated with frequent moves, transitions from a military career to civilian life, and other issues encountered during COVID-19 are addressed with helpful and interactive links and tools thru *Militarychild.org*

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

UPCOMING EVENTS

JANUARY 2021

- 1 Submission deadline National Awards
- 15 ARMY AVIATION Magazine 2020 Photo Contest Deadline
- 20-22 AAAA Joseph P. Cribbins Training, Acquisition and Sustainment Symposium, Huntsville, AL
CANCELLED

FEBRUARY 2021

- 9-10 AAAA Luther G. Jones Army Aviation Depot Forum, Corpus Christi, TX



Soldier Appreciation Dinner Concert



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AAAA Awards



Order of St. Michael Inductees

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CSM Brian Hauke
Aviation Center Chapter
MG Marvin "Todd" Hunt
Tarheel Chapter
COL Randolph R. Rotte, Jr., Ret.
Delaware Valley Chapter
MG Frank W. Tate
Phantom Corps Chapter

SILVER

CW5 Patrick A. Black
Colonial Virginia Chapter
LTC Daniel S. Brown, Ret.
Jack H. Dibrell/Alamo Chapter
COL Andrew Thomas Carter
Air Assault Chapter
CSM Alfredo E. Cespedes
Colonial Virginia Chapter

COL John M. Ferrell
Aviation Center Chapter
CSM Jason O. Johnson
North Country Chapter
LTC Ryan M. Miedema
Colonial Virginia Chapter
CSM Jason K. Stenbak
Phantom Corps Chapter

BRONZE

MAJ Shaun J. Arredondo
Aviation Center Chapter
CW3 Torrance Atkinson
Colonial Virginia Chapter
CW5 Nolan Beck
Colonial Virginia Chapter
LTC Stephen D. Boda
Greater Atlanta Chapter
MSG Clay W Bronson
Colonial Virginia Chapter
COL H. Allan Cutchin
Mid-Atlantic Chapter
CSM Walter M Detrinidad
Mid-Atlantic Chapter

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CW4 Kenneth Wayne Dyson
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LTC Len Fortenberry
Magnolia Chapter
SFC Andrew J. Grandison, Sr.
Aviation Center Chapter
LTC Lindsey E. Halter
Mid-Atlantic Chapter
1SG John A. Hamilton
Griffin Chapter
SFC Ronald Neal Hartleroad
Thunderbird Chapter
SFC Jeffrey Holt
Aviation Center Chapter
James Kazmer
Colonial Virginia Chapter
CW4 Gerald Allen Key, II
Greater Atlanta Chapter
CW5 Scott Monticelli
Tarheel Chapter
CW5 Michael J. Morris
Mid-Atlantic Chapter
CW4 Russell D. Motes
Greater Atlanta Chapter
CSM Derwood Norris
Tarheel Chapter
MAJ Brian C. Payne
Frontier Army Chapter
CW4 Scott W. Petersen
Frontier Army Chapter
SFC Jaime Riveracintron
Aviation Center Chapter

LTC J. Adam Rizer
Mid-Atlantic Chapter
LTC Samuel J. Roberts
Greater Atlanta Chapter
SFC Carlos V. Sannicolas
Aviation Center Chapter
MAJ Jonathan A. Sellars
Greater Atlanta Chapter
MSG Michael D. Simpson
Greater Atlanta Chapter
CSM Richard L. Sparks
Greater Atlanta Chapter
MAJ Patrick Szvetitz
Tarheel Chapter
1SG James W. Tucker
Greater Atlanta Chapter
SFC Jamil Wilson
Aviation Center Chapter
CW5 Christopher "Todd"
Woodard
Tarheel Chapter

Honorable Knight Inductees



Heiner Foerster
Griffin Chapter
Leonard Hoerber
Griffin Chapter
MAJ Joshua S. Nikes
Aviation Center Chapter
Ann Nollett
Aviation Center Chapter
LTC Mark Orlandi
Aviation Center Chapter
MAJ James Trayhurn
Aviation Center Chapter
MAJ Abigail Vargo
Sinai Chapter

Our Lady of Loreto Inductees



Alison Lawhead
Mount Rainier Chapter

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FALLEN HEROES

AAAA is saddened to announce the recent loss of four Aviation Soldiers.

OCONUS

The Department of Defense announced five U.S. Soldiers were among seven individuals killed while supporting the Multinational Force and Observers mission in the Sinai, Egypt. The Soldiers died Nov. 12, 2020 when their UH-60 Black Hawk helicopter crashed during a peacekeeping mission in the vicinity of Tiran Island near Sharm El Sheikh.



CW3 Garza



CW2 Ghabour



SSG McKee



SGT Sherman

Aviation Soldiers killed were:

Chief Warrant Officer 3 Dallas Gearld Garza, 34, from Fayetteville, North Carolina;
Chief Warrant Officer 2 Marwan Sameh Ghabour, 27, from Marlborough, Massachusetts;
Staff Sergeant Kyle Robert McKee, 35, from Painesville, Ohio; and,
Sergeant Jeremy Cain Sherman, 23, from Watseka, Illinois.

Another U.S. Soldier was killed and one other injured in the crash.
 The four Aviation Soldiers were assigned to the Aviation Company, Task Force Sinai.
 The accident is presently under investigation.

May they rest in peace.

(Information from Defense Department news releases and other media sources.)

Award Nominations Are Open NOW!

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Recognize your outstanding Soldiers through our AAAA Awards program! [Check out the Awards section on quad-a.org](http://quad-a.org)



AAAA National Awards

Presented at the Annual Army Aviation Mission Solutions Summit

Suspense: January 1

- Joseph P. Cribbins Department of the Army Civilian of the Year
- James H. McClellan Aviation Safety
- Henry Q. Dunn Crew Chief of the Year
- Gary W. Wetzel Army Aviation Soldier of the Year
- Rodney J.T. Yano NCO of the Year
- Michael J. Novosel Army Aviator of the Year
- Robert M. Leich Award
- Army Reserve Aviation Unit of the Year
- John J. Stanko Army National Guard Aviation Unit of the Year
- Active Army Aviation Unit of the Year
- Outstanding Army Aviation Unit of the Year

AAAA Hall of Fame Inductions

Presented at the Annual Army Aviation Mission Solutions Summit

Suspense: June 1

All AAAA Nomination forms are available on the AAAA Website:

quad-a.org



Thank You to Our Scholarship Fund Donors



AAAA recognizes the generosity of the following individuals, chapters and organizations that have donated to the Scholarship Foundation, Inc. from November 2019 through November 2020. The list includes donations received for all scholarships, as well as the General Fund which provides funding to enable the chapter, corporate, heritage and individual matching fund programs as well as national grants. **Every penny donated to the Scholarship Foundation goes directly to a grant as a result of the Army Aviation Association of America subsidizing all administrative costs (minus investment brokerage fees).**

114th Aviation Company Association
 7/17 Air Cav Association
 AAAA Air Assault Chapter
 AAAA Aloha Chapter
 AAAA Arizona Chapter
 AAAA ASE Speakers
 AAAA Aviation Center Chapter
 AAAA Badger Chapter
 AAAA Central Florida Chapter
 AAAA Colonial Virginia Chapter
 AAAA Connecticut Chapter
 AAAA Corpus Christi Chapter
 AAAA Cowboy Chapter
 AAAA Delaware Valley Chapter
 AAAA Flint Hills Chapter
 AAAA Gold Standard Chapter
 AAAA Idaho Snake River Chapter
 AAAA Iron Mike Chapter
 AAAA Jack H. Dibrell/Alamo Chapter
 AAAA Keystone Chapter
 AAAA Lindbergh Chapter
 AAAA MacArthur Chapter
 AAAA Mid-Atlantic Chapter
 AAAA Minuteman Chapter
 AAAA Mount Rainier Chapter
 AAAA North Star Chapter
 AAAA North Texas Chapter
 AAAA Old Tucson Chapter
 AAAA Phantom Corp Chapter
 AAAA Rio Grande Chapter
 AAAA Southern California Chapter
 AAAA Tarheel Chapter
 AAAA Thunder Mountain Chapter
 AAAA Thunderbird Chapter
 AAAA Volunteer Chapter
 AAAA Washington-Potomac Chapter
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 Digiflight Inc - Stanford Oliver
 Jay Dimberger-IHO Janis Arena
 Jay Dimberger-IHO CPT Ricard Rees-Y's Men of Westport & Weston
 Dustoff Association
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 Roberson Giving Fund - Keith Roberson
 Robertson Fuel Systems-IHO Christopher & Bill Gavora

Joseph Rosamond-IHO Creek Fire Rescue
 Susan & Theron Ruff-IHO COL Joseph A. Hoecherl
 Safran Electronics & Defense, Avionics USA
 Malinda & Edward Schmidt-IHO COL Joseph A. Hoecherl
 Edwin W. Schmierer III-IHO Thomas & Ann McNamara
 Scott Kubica
 Shashy Family Charitable Fund
 William and Mary Shelt-IHO Families of the Fallen
 Kenneth Shields
 Sikorsky Aircraft Corporation-Eric Kraemer
 Thomas G. Smith
 Kathryn & Joseph
 StandardAero
 Benjamin Stork
 Walter C. Studdard-IHO Colleen Hipp
 System Studies & Simulation, Inc
 Pamela & Joseph Taylor
 Jill & James Tyler
 Vietnam Helicopter Pilots Association
 Vietnam Helicopter Pilots Association of Florida
 Vietnam Veterans of the 227th Assault Helicopter Battalion
 Robert Weaver Welsh-IHO William Reeder Jr.
 Nolan Wesley-IHO Families of the Fallen
 Beverly A. Williamson-IHO MAJ Thomas Meredith Duckworth
 Chrysta Wilson - CREA
 Wreaths Across America Sponsors
 Michelle Yarborough - IHO MSG Raymond Yarborough, Ret.
 Michelle Yarborough. - IHO MAJ William "Pete" Stormer, Ret.
 John & Mary York-IHO LTC Thomas F. McNamara
 Lisa R. Young-IHO Morgan Rae Kurowsky
 Yulista Holding, LLC
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IHO - In Honor Of

For more information about the Foundation or to make a contribution, go online to www.quad-a.org; Contributions can also be mailed to: AAAA Scholarship Foundation, Inc., 593 Main Street, Monroe, CT 06468-2806.

Industry News *Announcements Related to Army Aviation Matters*

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

CSA Gets FARA/FLRAA Flight Demo

SIKORSKY/LOCKHEED MARTIN COMPANY, COURTESY PHOTO



Army Chief of Staff GEN James C. McConville sits in the cockpit of DEFIANT after a flight demonstration in West Palm Beach, Florida on Oct. 22, 2020. Sikorsky/Lockheed Martin hosted McConville, the Army's Future Vertical Lift Cross Functional Team, and PEO Aviation at their flight test facility for a flight demonstration of both of their technology demonstrators – Future Attack Reconnaissance Aircraft (FARA), S-97 RAIDER; and Future Long-Range Assault Aircraft (FLRAA), SB>1 DEFIANT.

Pinnacle Awarded Task Orders on UAS IMS Contract

U.S. ARMY PHOTO PINNACLE GRAPHIC



On October 30th, 2020, Pinnacle Solutions, Inc. was awarded follow-on task orders supporting the Fort Huachuca Unmanned Aircraft Systems (UAS) Instruction and Mission Support (IMS) contract. These are new, combined, cost-plus-fixed-fee and firm-fixed-price task orders that support the \$533M UAS IMS contract awarded to Pinnacle in March 2019 by the Army Contracting Command, Orlando, FL with an estimated completion date of March 2026. Under these task orders, Pinnacle and their Textron and AOC Global teammate employees, supported by their Sierra Vista, Arizona-based Program Management Office, provide the flight and maintenance training and operational maintenance, logistics, and information technology (IT) support for the UAS training programs at the 2/13th Aviation Regiment, 1st Aviation Brigade, U.S. Army Aviation Center of Excellence, and the U.S. Army Aviation Center Logistics Command (ACL) at Huachuca.

Cobham to Provide Gray Eagle Anti-Jam GPS Solution

Cobham Aerospace **COBHAM** Connectivity, has been selected by General Atomics Aeronautical Systems, Inc. (GA-ASI) and the U.S. Army to provide the anti-jam GPS systems for the MQ-1C ER Gray Eagle Extended Range (GE-ER) Unmanned Aircraft System (UAS) platform. As part of a Multi-Domain Operation (MDO) equipment suite that is compatible with existing GE-ER aircraft, the Digital Antenna Control Unit (DACU-8) capability provides Assured Positioning, Navigation and Timing (A-PNT) to the Gray Eagle ER UAS, weapons, and sensors. In addition to its superior performance in both jammed and benign environments it is able to output Direction Finding (DF) to on-board systems.

AT Systems DVE Training Device Enters AWR Process



AT SYSTEMS PHOTO/GRAPHIC

AT Systems, LLC announced the start of the Airworthiness Release process (AWR) as a part of a Cooperative Research and

Development Agreement (CRADA) with the U.S. Army Aeromedical Laboratory (USAARL) at Fort Rucker, AL, for their patented device that trains pilots for degraded visual environment during normal training flights. The device attaches to a helmet without modification and produces a degraded visual environment controlled by an instructor-operated iPad. AT Systems is a veteran owned small business founded in 2016 by Andre Lavallee and Tyson Phillips.

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ARMYAVIATION

Upcoming Special Focus



January 2021
Aviation Maintenance /Sustainment



February 2021
Rotary Wing Project Managers Update
Army Capability Managers
TRADOC Capability Managers

Contact: **Bob Lachowski** or **Erika Burgess**
AAAAindustry@quad-a.org
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AAAA

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AAAA Legislative Report

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

Grinchmas in Washington D.C.

Every senior leader in Pentagonville liked modernization and readiness a lot... But the Congressional Grinches, who lived just on the other side of the river, debated defense requirements a lot. The Grinches hated compromising on defense policy and funding. They failed to complete their mission during the congressional markup season. Now, please don't ask why. No one quite knows the reasons. It could be their heads weren't screwed on just right. It could be, perhaps, that their loafers and ties were too tight. But I think that the most likely reason of all, may have been that their hearts were two sizes too small. Whatever the reason, their hearts or their shoes, they stood there on Christmas Eve, failing to pass defense laws!

Much has evolved since the November issue. Post-election drama and uncertainty is plaguing Washington, D.C. as the dust continues to settle from the 2020 election. No NDAA, operating under continuing resolution, and uncertainty with who will hold power in the U.S. Senate all contribute to a chaotic situation that affects our Army Aviation enterprise.

Election Outcome – What Does This Mean?

What does the election outcome mean to Army Aviation? This is a loaded question, and we will not completely know until later in January following the inauguration of President-Elect Joe Biden. The reason is because the Senate's balance of power depends upon two Senate runoff races in the great state of Georgia which will determine whether Republicans or Democrats will hold majority power in the Senate. As of right now, the Republicans hold 50 seats, and the Democrats hold 48. If the Democrats take both of the Georgia seats, they will hold the power because the tie breaking vote on any significant legislation would come from Vice-President Kamala Harris. If the Republicans are able to maintain power in the Senate, it will force a situation where the White House (Democratic) will have to work with the

Republican party to compromise on legislation and policy. If the Democrats hold power in the Senate, they will have complete power over legislation and policy for at least two years. This could be risky for defense policy because there are many in the Democratic party that do not support strong defense spending.

The Democratic party retained power in the House of Representatives, but the Republicans flipped quite a few seats so the balance of power in the House will be much less uneven than it has been the last two years. This will create a situation where more compromise will be necessary because of the wide spectrum of political views across the Democratic party. Regardless, the power in the House is in the hands of the Democrats.

Honorable Geoff Davis, West Point grad, Army Aviator, and former Kentucky Congressman, believes if the Republicans can hold the Senate, there will be genuine potential for constructive compromise because President-Elect Biden has a strong working relationship with Senator Mitch McConnell from their decades of work together in the U.S. Senate.

NDAA and Defense Appropriations Update

Now that the election is over, the race is on to finish the National Defense Authorization Act (NDAA) and Defense Appropriations Bill before the new Congress takes shape in 2021. The House and Senate appointed conferees for the NDAA this past month. Conferees are select Congressman and Senators that sit on the Armed Services Committee and have the responsibility of negotiating the final version of the defense bill. Congress has completed the NDAA for 59 years in a row, but this year, that record is at risk. Renaming Confederate named defense bases has become a sticking point in the legislation and President Trump has threatened that he will veto the entire defense bill if it includes provisions directing the renaming of these bases. Defense appropriations is another issue. Congress passed two stop gap measures (Continuing Resolution) so they could concentrate on their elections. At the time of this writing, the

current CR funds DoD through December 11th so when this hits your mailbox right before Christmas, it's anyone's guess if there will be a budget. It is highly likely they will pass another CR to fund defense into January and kick the budget decisions to the next group of legislators and next President.

Farewell to Rep. Martha Roby

A key race this year for Army Aviation was Alabama's 2nd Congressional district where Ft. Rucker is located. Congresswoman Martha Roby represented our Aviation enterprise for 12 years serving on both the House Armed Services Committee and the Defense Appropriations committee. She will be passing the baton to Barry Moore, a former Alabama state representative, who won the seat in November. Hopefully, he will quickly work onto one of the defense committees and carry forward the strong support that Representative Roby provided for many years. AAAA has approved the Order of St Michael – Knight award for Roby and will present it to her at Cribbin's or the Annual Summit in April.

AAAA National Executive Board Nominations

In accordance with the AAAA By-Laws, notice is given that in addition to the nominations recommended by the Nominations Committee for those NEB offices in which vacancies occur at the time of the annual election, floor nominations may be made at the Annual Summit, provided that the name of the floor nominees appear on nomination petitions signed by 25 AAAA members and said petitions are provided to the Chairman of the Nominations Committee at the AAAA National Office at least 30 days prior to the conduct of the AAAA Annual Meeting.

People On The Move

Aviation General Officer Promotions/Assignments

Shawley Assumes Command of the Wildcat Division



U.S. ARMY VIDEO SCREEN

MG Jami C. Shawley assumed command of the Army Reserve's 81st Readiness Division (RD) headquartered at Fort Jackson, Columbia, SC during a "virtual" ceremony Nov. 14. A Senior Army Aviator, she most recently commanded the U.S. Army Reserve Aviation Command at Ft. Knox, KY. The 81st RD is the Geographic Command for nine southeastern states, as well as Puerto Rico and the U.S. Virgin Islands.

Changes of Command/Responsibility

1-230 Welcomes Baird



U.S. ARMY PHOTO BY PHOTO BY U.S. ARMY SGT SWANH KIRBY

U.S. Army COL Joe H. Miller, commander of the Tennessee National Guard's 30th Troop Command, passes the 1-230th Assault Helicopter Battalion colors to incoming commander, LTC Jeffery R. Baird, during a change of command ceremony at Joint Base Berry Field, Army Aviation Support Facility Number 1, Nashville, TN, Sept. 12. Also pictured are outgoing commander, LTC Steven R. Todd (left), and battalion CSM Gary Bailey.

Awards

4-3 AHB Brawlers Win Hutton Safety Award



U.S. ARMY PHOTO BY SGT ANDREW MACIEL, 3RD CAE, 3RD INDV

LTC Joseph McCarthy (left) and CSM Jermaine Baldwin (right), the command team of 4th Battalion, 3rd Aviation Regiment, 3rd Combat Aviation Brigade, 3rd Infantry Division, receive the Brig. Gen. Carl I. Hutton award for safety at the Hunter Club on Hunter Army Airfield, GA, Nov. 18. Retired U.S. Air Force Lt. Gen. Nicholas B. Kehoe, national commander of the Order of Daedalians, presented the award. The U.S. Army Aviation Center of Excellence at Fort Rucker, Alabama, selected the battalion to receive the award for its commitment to safety. The 4th Bn., 3rd AVN Regt., is one of only two units that have won the award twice in its 41-year history.

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.

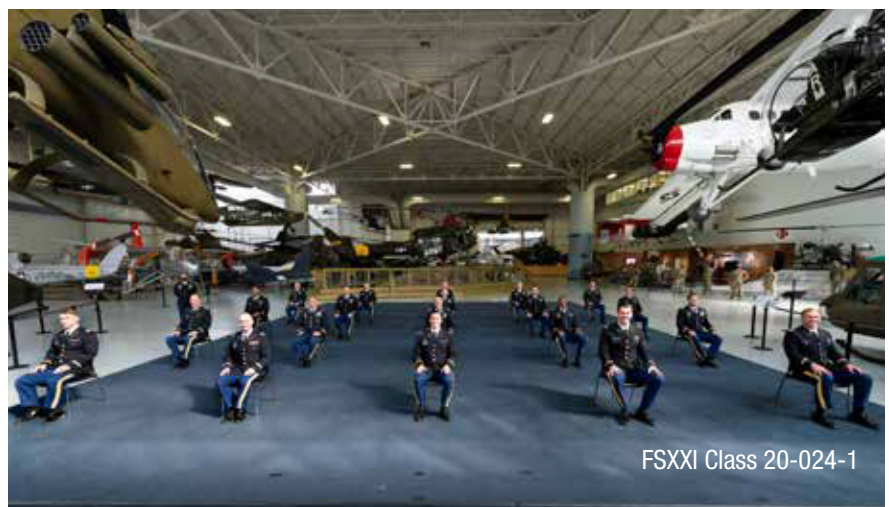
36 Officers October 8, 2020

Commissioned Officers

- 2LT Niehof, Robert T. * - DG
- 2LT Anderton, John R.
- 2LT Donohue, Shane T.
- 2LT Finken, Andrew C.
- 2LT McCormack, John R.
- 1 LT Ziegler, Benjamin J. *
- 2 LT Weir, Shawn M.

Warrant Officers

- WO1 Santosuosso, Kyle P. - DG
- WO1 Cribb, Logan C. - HG
- WO1 Hall, Brian C. - HG
- CW2 Pickens, Kelsi J. - HG
- WO1 Sheridan, Ryan C. - HG
- WO1 Anderson, Michael S.
- WO1 Ashworth, Timothy D. *



FSXXI Class 20-024-1

- WO1 Booker, Kareem M.
- WO1 Calla, Joshua M.
- WO1 Chambers, Nathan L.
- WO1 Clabaugh, Nathan L.

- WO1 Cunningham, Wayne C. *
- WO1 Denham, Anthony W.
- WO1 Feltz, Michael R.

Continued next page



People On The Move

Flight School Graduates Continued

- WO1 Fourtunia, Andrew G. *
- WO1 Hennessy, Christopher M.
- WO1 Hill, Ryan M.
- WO1 Isabell, Brandon S.
- WO1 Miller, Sarah E. *
- WO1 Morrell, Adam G.
- WO1 Nelson, Rachyl E. *
- WO1 Olson, Cameron E. *
- WO1 Ortiz, Brett A.
- WO1 Pantone, Michael B.
- WO1 Payne, Jason S. *
- WO1 Roldan-Castro, Joel R.
- WO1 Stevenson, Grant L.
- CW2 Sutton, Clayton R.
- WO1 Weers, Andrew J

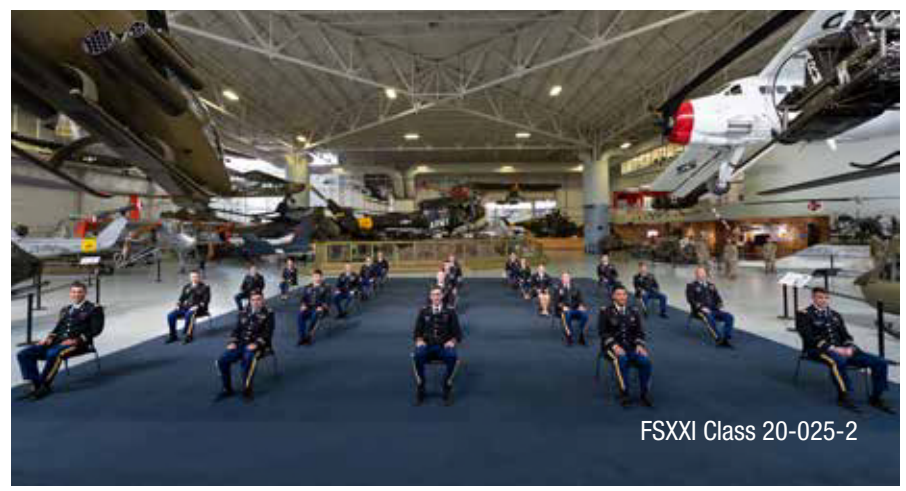
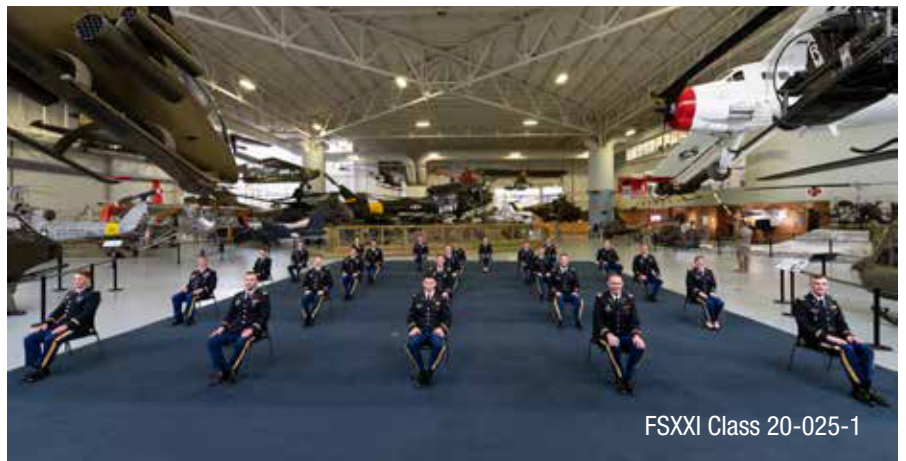
48 Officers October 22, 2020

Commissioned Officers

- 2LT Curry, Colton J. - DG
- 2LT Delmore, Hugh R. - HG
- 2LT Rapport, Jordan L. - HG
- 2LT Ashley, Andrew K. *
- 2LT Beck, John C.
- 2LT Brennan, Thomas D. *
- 2LT Chamberlin, Sarah G. *
- 2LT DeLaRocha-Duarte, Crystal *
- CPT Dunning, Samuel C.
- 2LT Hayner, Hayden H. *
- 2LT Hylton, Nicholas W. *
- 2LT Kim, Matthew Y. *
- 2LT Kuykendall, Derik T.
- 2LT Mason, William J.
- 2LT Muller, Peter E. *
- 2LT Poythress, Mason A. *
- 2LT Thornton, Connor R. *

Warrant Officers

- WO1 Bello-Gonzalez, Andres F. * - DG
- WO1 Boland, Jon Robert N. * - HG
- WO1 Chambers, Kevin C. - HG
- WO1 McGaw, Alexander N. - HG
- WO1 Smith, Kagan B. - HG
- WO1 Aleksander, Benjamin A.
- CW2 Barabas, Bryan J. *
- WO1 Bealka, Matthew J. *
- WO1 Cardenas, Christian D.
- CW2 Etchison-Flynn, Thomas C. *
- WO1 Fogarty, Matthew J.
- WO1 Goggins, Robert J.
- CW2 Greene, Lindsey M. *
- WO1 Gurnee, Ian W. *
- WO1 Hedrick, Ashley L.
- WO1 Hofhenke, Micheal D.
- WO1 Kao, Jonathan W. *
- WO1 Manzi, Anthony F. *
- WO1 Morihlatko, Christopher M. *
- WO1 Nagozruk, Brandon P.



- WO1 Nicklas, Kathryn L.
- WO1 Ochoa, Francisco Y.
- WO1 Pagan-Mercado, Adaliz
- WO1 Riggs, Justin T.
- WO1 Sessoms, Korey J.
- WO1 Vaillancourt, Jaime E.
- CW2 Ware, Andrew J. *

- WO1 Wass, Andrew C.
- WO1 Yates, Chance W.
- WO1 Zorn, Jonathan D.

-DG: Distinguished Graduate
 -HG: Honor Graduate
 * = AAAA Member

People On The Move

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 034-20

PFC Brandon K. Warren * - DG
 PV2 Dagoberto Ceballos Aguirre
 PV2 Sebastian Joseph Brown
 PV2 Joseph Corey Hunsecker
 PV2 Ian Robert Kurtz
 PV2 Terrence Jerelle McBynum
 PV2 Gervin A. Paredesagustin
 PV2 Anthony A Root, Jr
 PFC Jeffrey Thai Tran
 PV2 Geison Ismael Velascopez

Class 035-20

PFC Nathan Roldan * - DG
 PFC Steven Barze, Jr
 PFC Katherine Cloyd
 PFC David Coba
 PV2 Cody Cordo
 PVT Garrett Cottrell
 PVT Kevin Doherty
 PVT Donald Kasten
 PFC Linton Kettle
 PVT Isaiah Reeves
 PV2 Hunter Sims

Class 038-20

PV2 Jessey Chandler * - DG
 PVT Brandon Turner
 SPC Patrick Vansolen
 SGT Tony Vanvolkenburg

CH-47 Medium Helicopter Repairer (15U)

Class 032-20

PV2 Brandon T Beasley * - DG
 PV2 Timothy Jake Beers
 PV2 Emily May Burden
 PV2 Taylor Layne Crabtree
 PV2 Clifton Joseph Dalton
 PV2 Trinity Aree Dion
 PV2 Kenneth Casey Grant

Non-Rated Warrant Officer Graduates



AAAA congratulates the following officers graduating from the Aviation Maintenance Warrant Officer Basic course at the U.S. Army Aviation Logistics School, Joint Base Langley-Eustis, VA.

10 Officers October 30, 2020

WO1 Nicholas Davis *
 WO1 James Foster *
 WO1 Steven Crusha *

WO1 David Fowler
 WO1 Don Robinson
 WO1 James White

* = AAAA Member

PV2 Marviso Damyonellis Loya
 PV2 Amuda Adamloibe Lubajo
 PV2 Madison Elise Maxfield
 PV2 Cindy Mederos
 PV2 Brenda Angelica Ramirez

Class 033-20

PV2 Jonathan C. Smith * - DG
 PV2 Jorence Guillermo Cabrerros
 PV2 Casey Matthew Ferrara
 PV2 Daniel Jacob Gartin
 SPC Andy Leal
 PV2 Evan Michael Munson
 PV2 Robert Grant Parcell
 PV2 Landon Jeremiah Powell
 PV2 Matthew Adam Rosas
 PV2 Clayton Clarke Taylor
 PV2 Austin Michael Terranova
 PV2 Andrew Bryce Webb

Class 034-20

PV2 Garrett Victor Jones * - DG
 PFC Tanner Michael Bayles
 PVT Aron Sky Edleman
 SGT Jordan Allen England
 PV2 Gavin Hayes Greeno
 PV2 Simon Christopher Lacosse
 PV2 Isaac C. Jason Luce
 PV2 Bubba Deon Sams

UH-60 Helicopter Repairer (15T)

Class 069-20

SPC Hollis N. T. Joslin * - DG
 PV2 Brian Wayne Cook
 PFC Ben Wesley Gardiner
 PV2 Lucas Dane Gibson
 PV2 Richard N. Gonzalez Mendez
 PFC Marcus Emil Hiebner
 PV2 Luke Anthony Hunter
 SPC Parker Lee Lind
 PV2 David Benjamin Long
 PV2 Damian Michael Mahoney
 PFC Wesley Quentin Meyer

Class 070-20

PFC Zachary A. Pearson * - DG
 PV2 Aaron James Alire
 PFC Antonio William Barrios
 PV2 Alexander Nicholas Beans
 PV2 John Rowley Burkhardt
 PV2 Matthew Tyler Ketcher
 PFC Brandon Jett Plummer
 PFC Brandon Alexander Reed
 SPC Derek Daniel Schmid
 PFC James W. Sommerville

Class 071-20

PV2 Eder I. Zamudio * - DG
 SPC Jason Delgado

PV2 Cesar Alexis Godinezcorona
 PV2 Nathaniel David Hebert
 SPC Trevor Scott Knuth
 SPC Rodney Adam Kyle
 PV2 Victor Rafael Mercadocolon
 PV2 Claudio Alonzo Pena
 SPC Jordan Marc Tessensohn
 PV2 Brandon Antonio Turner
 PV2 Joseph Aron Wilson

Class 075-20

SPC Jeremiah R. Burch * - DG
 PVT Zaymian Jesus Alatorre
 SPC Joshua Antonio Delgado
 PV2 Caelan Vincent Guthrie
 SPC Idrees Abdullah Hanif
 PFC Robert Owen Miller
 SPC Olaniyi Luqman Oyefesobi
 PFC Justine Lee Rains
 PFC Cassidy M. Wheeler

Class 076-20

PFC Caleb E. Deveau-Brewer * - DG
 PV2 Alexander Riley Biter
 SPC Ian Nesby Brashear
 PV2 Miguel A. Delgado-Hernandez
 SPC Juan Pablo Nina
 PFC Andrew Lee Reinert

Continued on next page

People On The Move

AIT GRADUATIONS

Continued

PV2 Darion Kyshaun Smith
PFC William Brandon Umstead
PV2 Alejandro Bryan Vega
PFC Noah Charles West

Aircraft Powertrain Repairer (15D)

Class 008-20

PFC Brian Allen Burch * - DG
PV2 Christobal A. Benitez
PV2 Steven Anthony Bunting
PV2 Samuel Robert Gerber
PVT Sarah Chesed Johnson
PV2 Omar Ramos Jr

Aircraft Electrician (15F)

Class 020-20

PV2 Dylan David Schwab * - DG
PV2 Hugh Obrien Bowen
PFC Reinaldo G Brown
PV2 Adam C Ramos
PV2 Michael Tyler Reese
PFC Richard Joseph Webb, Jr
PV2 Jacob Russell Whitaker
PV2 Joseph Weeks Williams

Class 021-20

PFC Stephen J. Rousselet * - DG
PV2 Dylan Joe Buckler
PV2 Harold Jacob Heaton
PVT Jonathan Furst Parys
SPC Stephen Hampton Smith

Aircraft Pnedraulics Repairer (15H)

Class 015-20

PFC Nicholas J. Hanlon * - DG
PVT Michael J. Enniks-Hanson
SPC Luis E. Figueroa-Perez
PV2 Hunter Allen Harris
PV2 Ashton Levi Todd
SPC Trayveion Marcellous Yates
PFC Josue C. W. Zoungrana

Avionic Repairer (15N)

Class 013-20

PV2 Selena Marie Bautista
PFC Eduardo Cruz
PFC Juan Carlos-Ortiz Delara
PV2 Cody Steven Ford

PV2 Brittiana Tiffany Garcia
SPC Bradley Ryan Holt
PVT Randy James Johnson
PFC Franchesca Yari Rivera

Class 014-20

PV2 Ryan Nathaniel Neff * - DG
PFC Gabriel Melendez-Arvelo
SPC Jermaine Dunturio Metcalf
PFC James John Sathngam
PFC John Carol Savoy, III
PV2 Kevin Lee Trimble

Class 016-20

PV2 Milam T. Mathems * - DG
PV2 Ty Edward Caminita
SPC Luis Antonia Fuentes-Green
PV2 Francisco Javier Gutierrez
PFC Baily Cakes Murphy
PV2 Nathan Mathew Panek
PV2 Tyrone N. Alegre Rosario
PV2 Dylon Matthew Sheaffer
PV2 Jose Ernesto Vazquez, Jr

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

Class 017-20

PVT Charles M. Heffner * - DG
PVT Jason Michael Alston
PVT Gary James Burk
PVT Mitchell Todd Carroll
PV2 Laith Wyatt Edgel
PVT Frankline Benedicto Holt, II
PV2 Matthew Justin Huber
PVT Dalton Lee Mitchell

Class 018-20

PVT Robert Stringer * - DG
SPC Anthony B. Moralesroman
PVT Gabriel Scott Pallan
PVT Brice William Philippus
PVT Cody Allen Robertson
PVT Danny Zhao Timpe
PFC Norman A. Turner, II

Unmanned Aircraft Systems (UAS) Graduations

Warrant Officer

AAAA congratulates the following Army graduates of the Tactical Unmanned Aircraft Systems Operations Warrant

Officer Technician Course, MOS 150U, at Fort Huachuca, AZ.

7 Graduates, 28 September 2020

W01 Isaiah M. Witt -DG
W01 Sheldrick B. Morgan -HG
W01 Ben Adams Jr
W01 Caleb M. Craft
W01 Brendan L. Henske *
W01 Justin P. Kruger
W01 Shaun R. Maynard
W01 Christopher Moore
W01 Brandon J. Olson
W01 Brittney N. Taylor

UAS Repairer

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

Shadow UAS Repairer Course

8 Graduates, 28 September 2020

SPC Rodnie J. H. Marrero -HG
PVT Jordon A. Egger
PVT Bradley B. Groenemann
PVT Keanu A. Olivares
PVT Alexander D. Passalacqua
PVT Andrabeth Phirun
PVT Bailey A. Reynolds
PVT Caleb J. Thompson

8 Graduates, 7 October 2020

PFC William D. Gillespie
PFC Jose L. Lopez
PFC Zakary R. Wardlow
PFC Pierre R. Weber
PV2 Destiny S. Bonham
PV2 Alexander Saavedra
PV2 Cortelius N. Santiago Wright
PV2 Tomas F. Sena

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

20 Graduates, 30 September 2020

PFC Ryan Apodaca -DG
PVT Carson T. Corrigan -HG
PFC Johnmerl R. Albrecht
PVT Dean M. Aguirre
PFC Jacob R. Harper
PFC Antonio L. Feliz
PFC Amanda J. Williams
PV2 Samuel C. Dean
PV2 Vincent Gonzales
PV2 Dylan J. Lobby
PVT Gage M. Anderson
PVT Nicholas C. Delitta
PVT Frank S. Denoto
PVT Calvin J. Diamond
PVT Zachary Endsley
PVT Jacob J. Frick
PVT Dylan C. Haack
PVT Taree J. Hart
PVT Pedro D. Ramostorres
PVT Rogelio Rodriguez Mora

22 Graduates, 20 October 2020

SPC Scott E. Mcvicker -DG
SPC Mitchell T. Powell -HG
SPC Tamara Santiago Dalmau
PFC Cristofer Garcia Cortez
PFC Clayton Leinweber
PFC Leonell J. Martinez Rosario
PV2 Ismael A. Fernandez Tavarez
PV2 Jacob L. Foist
PV2 Baylor M. Hartin
PV2 Christian S. King
PV2 David M. Lesperance
PV2 Adam J. Lipman
PV2 Chris E. Lua
PV2 Ruben A. Mariscal
PV2 Nathaniel G. Martin
PV2 Timothy J. Martin
PV2 Braeden J. Mccollum
PV2 Kristina P. Merritt
PV2 Lamer Mulgae
PV2 Nathaniel J. Mundo
PV2 Jason J. Pesce
PV2 Luis I. Prado

DH - Distinguished Graduate

HG - Honor Graduate

* = AAAA Member

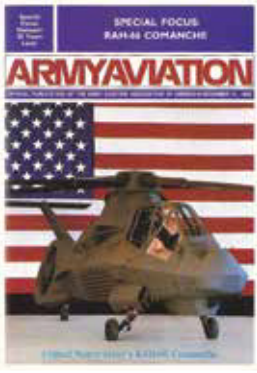
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Art's Attic

By Mark Albertson



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



25 Years Ago December 31, 1995

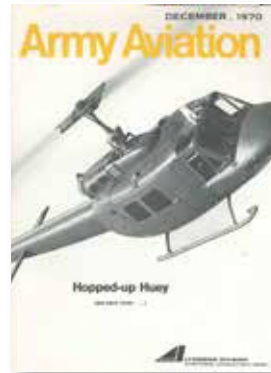
Briefings—"The Fellows"

Army Chief of Staff, General Dennis J. Reimers, has selected the 1995-1996 Chief of Staff, Army, Strategic Fellows (CSASF). They are: Colonel John W. Ezzes, AV; Colonel Gerald J. Brown, OD; and Colonel John W. Barnes, SC. They have joined the 1994-1995 Fellow, Colonel Gordon J. Burke, IN, to complete the CSASF Team. The Fellows are to help achieve a more efficient Army by, among other actions, assisting the Chief of Staff Army develop a comprehensive Army-wide business and efficiency strategy that integrate ongoing efforts and identifies non-value processes, programs and organizations that should or could be restructured, combined or eliminated.



Up-Gunning Army Aviators: Personal Defense Systems for the 21st Century," by Captain Will Dabbs

While submachine guns have fallen out of favor in most modern armies as opposed to lightweight assault rifles, there is no better weapon with which to arm aircrews operating over a hostile terrain. These weapons are small, easily portable, provide excellent short-range accuracy, and possess a prodigious magazine capacity. Contrary to what Hollywood would have us believe, submachine guns are most effectively employed in the semiautomatic mode with the shoulder stocks extended. In this configuration submachine guns enjoy a two-to-three-fold increase in effective range and controllability over a handgun for a minimal tradeoff in weight and space.



50 Years Ago December 31, 1970

1969-1970 Outstanding Unit for the Year

The 101st Airborne Division (Airmobile) was chosen as the Outstanding Army Aviation Unit for 1969-1970, at the Twelfth Annual Honors Luncheon of AAAA. General William C. Westmoreland, center, presents the Outstanding Aviation Unit trophy to, left-to-right, LTG Melvin Zais, CSM Robert A. Young, CSM William T. Mixon and LTG John M. Wright, Jr., representing the officers and men of the 101st Airborne Division (Airmobile).



Vietnam Specialist, Fifth Grade, Wins Aviation Soldier of the Year Award

Specialist Fifth Grade, Dennis L. Jantz, was named Army Aviation Soldier of the Year, 1969-1970, during award ceremonies held at the Twelfth Annual Meeting of the Army Aviation Association of America (AAAA) at the Shoreham Hotel in Washington, D.C. The Honorable Stanley R. Risor, Secretary of the Army, made the award presentation, citing SP5 Jantz's achievements as an aviation crewman assigned to the 240th Aviation Company (Assault Helicopter), USARV.



Army Aviators to Attend Army War College

(All are lieutenant colonels, unless noted.) Arnet, Robert A., Bahnsen, John C., Jr., Baughman, Larry J., Broady, William, Burnett, Clark A., Cole, William W., Covington, Edward B., Culton, William H., Dasch, William E., Sr., Eyman, Robert F., Junot, Arthur J., Schnibben, John H., Shamburek, R.H. (Colonel), Synder, Quay C., Spence, Thomas H., Stone, Howard F., Wilton, Franklin I., and Woodmanse, John W.



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

Major John W. Oswalt

*Army Aviation Hall of Fame 1976 Induction –
Fort Rucker, AL
(Inducted to represent the 1942-1949 period)*



Major (later Colonel) John W. Oswalt entered Army Aviation in Class P-2 at Fort Sill, OK, in mid-1942, and was one of the first ten L-Pilots to be sent to a WW II combat zone, landing in Morocco with General Patton's Western Task Force in November, 1942. Amassing 1,013 hours of combat flying time as Aviation Officer of the 1st Armored Division, he fought in the North African and Italian campaigns, including Cassino and Anzio.

During 1942-1943, when the concept of the organic Air Observation Post was on trial, Oswalt helped to prove its success beyond doubt, providing combat proven tactics and concepts to the Aviation School. Primary guidance was furnished in many new areas of operations, including deep aerial night adjustments of artillery fire and the justification for and use of L-5 Stinson aircraft for flight over mountainous terrain, the first equipment advancement over the L-4 Piper Cub.

During the breakout from Anzio and drive north to Rome, fast-moving U.S. armored columns were attacked by our own fighter-bombers. Responding quickly, Major Oswalt installed VHF radios in two L-5's, painting the top of the wings with their call signs, "Horsefly Yellow" and "Horsefly Red," the first instance in which Air Corps fighter strikes were directed from light Army aircraft. From this beginning, later day "Mosquito Mission" or FAC flights were developed.

Due to his wide combat experience and record of innovation, Major Oswalt became Aviation Officer of the 15th Army Group, serving under its commander, General Mark W. Clark, until 1948.

In 1949, Oswalt organized the groundwork in several major Army Aviation Research & Development areas. Through his leadership and direct efforts while serving with Army Field Forces at Fort Monroe, VA, Oswalt initiated actions to obtain the first L-20 and L-23 aircraft and several of the Army's early cargo helicopter models.

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