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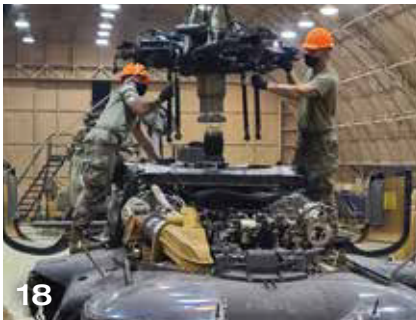
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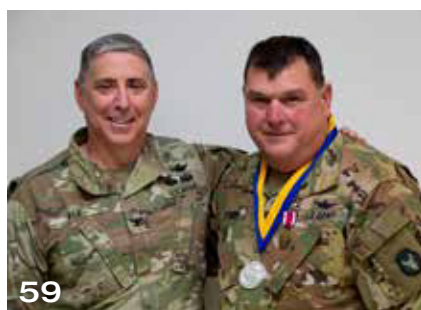
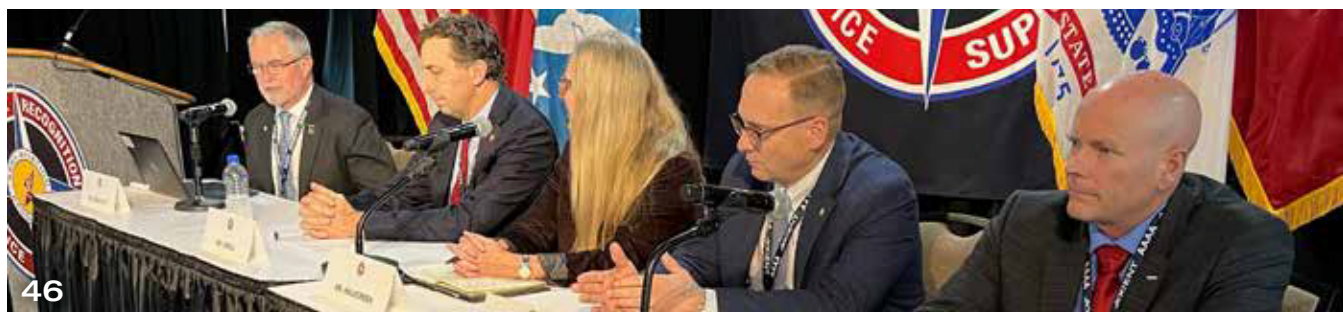
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# Briefings ▶ Late Breaking News - Announcements

## POTUS Signs NDAA

President Joe Biden signed into law the fiscal year 2022 National Defense Authorization Act on Dec. 27, 2021. The \$740 billion NDAA, calls for \$25 billion more in defense spending than Biden's budget request. It also includes a provision directing DoD to pay Reserve Component members incentive pay equal to the regular component. See the Legislative Report on page 65 for more information on what comes next.

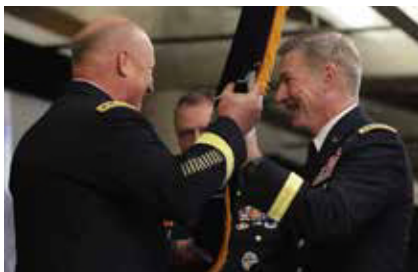
## Grady Sworn In as VCJCS



DOD PHOTO BY CHAD J. MCNEELY

Secretary of Defense Lloyd J. Austin III delivers the oath of office at the swearing in ceremony at the Pentagon for Adm. Christopher W. Grady as the 12th Vice Chairman of the Joint Chiefs of Staff, Dec. 20, 2021. The swearing-in fills a monthlong vacancy following the retirement of Air Force Gen. John E. Hyten, whose last day was Nov. 19. According to a Pentagon press release, the former commander of U.S. Fleet Forces Command/U.S. Naval Forces Northern Command will be leading the Joint Requirements Oversight Council and serving as a senior member of the Nuclear Weapons Council.

## Richardson Takes Over at AFC



U.S. ARMY PHOTO BY AUSTIN L. THOMAS

LTG James M. Richardson (left) receives the U.S. Army Futures Command colors from Army Chief of Staff, GEN James C. McConville, as outgoing commanding general, GEN John M. Murray, looks on during a relinquishment of command and change of responsibility ceremony on Dec. 3, 2021. Richardson, a Master Army Aviator, assumes the responsibilities of acting commanding general from Murray who retired with nearly 40 years of service; and CSM Brian A. Hester

assumed responsibility from outgoing CSM Michael A. Crosby. Murray and Crosby served as the inaugural command team for the newly created command since August 2018.

## National Medal of Honor Monument

President Biden signed the National Medal of Honor Monument Act into law on Dec. 27, 2021 following its bipartisan, unanimous approval by both the U.S. House and U.S. Senate. The legislation authorizes the creation of a monument in Washington, D.C., to recognize the fewer than 4,000 Americans who have received the Medal of Honor since its founding during the Civil War. As of this writing, there are only 66 recipients alive. No federal funds will be used to build the monument. Instead, the National Medal of Honor Museum Foundation will be responsible for raising funds to cover the expenses associated with the project.



AP FILE GRAPHIC

## Adoption Reimbursement Deadline Extended



DOD PHOTO FROM MILITARYONESOURCE.MIL

The Defense Department temporarily extended the deadline for adoption reimbursement requests in certain cases in response to impacts of the COVID-19 pandemic. The DoD provides a variety of support for service members seeking to adopt children; reimbursement for qualified expenses is part of that support. DoD may accept applications for adoption reimbursement past the two-year deadline if the following criteria are met: the adoption was finalized between March 1, 2018, and Dec. 31, 2019; for adoption of foreign children, the certificate of U.S. citizenship was issued between March 1, 2018, and Dec. 31, 2019; and the application for reimbursement must be provided to the designated military service point of contact no later than Feb. 28, 2022. The exception to policy is effective immediately and will remain in effect through Feb. 28, 2022. For more information about military adoption support, Military OneSource ([militaryonesource.mil](http://militaryonesource.mil)) offers no-cost adoption consultations, as well as online military adoption information and resources.



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## ▶ President's Cockpit

# Summit On-Time, On-Target for April!



ARPHOTO BY BILL HARRIS

It's a new year and new opportunities are ahead as we look forward to holding our first AAAA Annual Army Aviation Mission Solutions Summit in two years!

*A packed house listens to a presentation during the opening session of the Luther G. Jones Army Aviation Depot Forum, 6-7 Dec 21, Corpus Christi, TX. Among the VIPs pictured are: (front right table, left to right) MG (Ret.) Tim Crosby; AAAA President; LTG Thomas H. Todd III, DCG, Army Futures Command; Corpus Christi Mayor Paulette Guajardo; and COL Joseph Parker, Corpus Christi Army Depot commander.*

April 3-5, 2022 at the Opryland Hotel in Nashville, TN are the dates. Hard to believe we are barely over 60 days away by the time you read this. Chief of Staff, GEN Jim McConville will be our keynote speaker on Monday and we have a packed agenda with everything from our Branch leadership led by MG Dave Francis, to simulation, Warrant Officer and Soldier updates by our Chief Warrant Officer of the Branch and Branch CSM to safety, international panels, survivability working groups, and Future Vertical Lift.

There is something for everyone to include a spouse program with various tours and presentations. We are even working on reduced rates for Soldiers at the impressive indoor water/surfing park right at Gaylord, called "Sound Waves." Keep up-to-date with the AAAA Events App to access 22Summit for the latest agenda and more!

The Opryland hotel itself is close to being sold out but we have a number of other Marriott properties across the street that are available. The AAAA website will direct you to our event vendor eShow which will show you what is still available. You can book at the same time you get your event tickets.

Attention Industry Members: There are a few exhibit spaces left but very few indeed. Most of our exhibitors rolled over their contracted booths from the last two years' cancelled shows so we are about sold out.

Remember to get your tickets for the Hall of Fame Banquet on Monday night and the closing casual Soldier Appreciation Concert with Justin Moore on Tuesday evening.

As you read last month, the Joseph P. Cribbins Training, Equipping and Sustainment Symposium was an amazing success in Huntsville. Recognition of outstanding Soldiers is such an important part of what AAAA does. The last two

years of pandemic have not helped us to work that pillar of our mission statement.

Please see pages 40-44 for full coverage of the 2020 and 2021 National awards that we presented at the Cribbins event catching up on two back years of awards to include the Hall of Fame, our Soldiers of the Year, Crew Chiefs of the Year, National Guard Unit of the Year and many, many more not to mention the Material Readiness awards to industry that were presented there. What a joy to see these individuals and their family members finally appreciated before hundreds of their friends and peers. There were a lot of emotional moments I assure you and I hope the photos convey some small part of that to you.

We have also just held in December our Luther G. Jones Army Aviation Depot Forum in Corpus Christi, TX. Recognition of two outstanding Artisans of the Year were presented there as well. The Mayor herself along with LTG Todd and MG Royar helped us honor those outstanding unsung heroes who do such an outstanding job returning our aircraft to like new condition every year at the Depot as well as provide the new UH-60V model to the force.

I am continuing to travel around the country visiting our chapters as I work toward the goal of visiting each one by the end of my term in 2023. We are also working initiatives on a Hall of Fame review, new standards for industry sponsorship of our national awards, increased benefits for our industry members and much more. I look forward to seeing many of you in Nashville and during this next year as we keep pressing on our Mission Statement: "Supporting the U.S. Army Aviation Soldier and Family."

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





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# Army Aviation Sustainment During LSCO

By MG David J. Francis



U.S. ARMY PHOTO BY SFC RAIN SHELTON, 40TH CQB

Sustainment will be a core warfighting function for future warfare. Our enterprise has to take a close look at how we execute aviation maintenance and how we design logistical systems that support Large Scale Combat Operations.

*SSG Dustin Murray, a Quality Control Noncommissioned Officer in charge with Delta Company, 1st Battalion, 168th Aviation Regiment (General Support Aviation Battalion), Iowa Army National Guard, inspects the engine of a CH-47 Chinook helicopter at Camp Buehring, Kuwait.*

The Army expects Army Aviation will be capable of generating support to operational maneuver forces with integrated aviation sustainment capability. That capability must be designed to support an agile, adaptive, and modernized expeditionary aviation force capable of winning during Large Scale Combat Operations across multiple domains.

Future aviation maintenance op-

erations require dispersed execution in austere environments, amidst complex terrain, with limited or lengthy lines of communication for extended periods. A reduced logistics footprint requires improving efficiency and minimizing the signature of maintenance operations. Condition-based maintenance systems, with precision prognostics and diagnostics, will lessen the overall maintenance workload reducing the mainte-

nance capacity demands. Modernizing our logistics also includes breaking the phase maintenance paradigm that ties us to large footprints and lengthy supply chains. Optimizing our inspections relevant to operations with accurate component repair and replacement times will afford more fixing forward for combat power.

Our maintainers are the cornerstone of our sustainment program. The



Aviation Maintenance Training Program allows us to track the training sets and reps of our maintainers to capture unit capacity. With an increase in more technically qualified Soldiers capable of diagnosing, assessing, and repairing multiple aircraft and systems, we can fight in austere and dispersed environments. Instead of a robust maintenance company with 300 Soldiers, we may need to disperse 10 teams of 30 Soldiers throughout the battlefield. These teams that can rapidly regenerate combat power forward and keep our systems in the fight without an underlying reliance on stateside depots and contract support. Preparing for LSCO requires we train our Soldiers with the most modern, technically rigorous, and realistic conditions that units expect to operate in during combat.

All of our efforts in modernizing aviation maintenance are to improve and sustain the launch, recover, launch capability that supports Large Scale Combat Operations. For FY 22, we are pursuing sustainment experiments to see where we can improve maintenance operations. Some of the concepts

include 3D printing, allowing us to create critical parts and components where and when we need them. While our aviation fleet has numerical objectives and goals for readiness, our ultimate objective is a level of operational availability that allows Army Aviation to conduct Combined Arms Maneuver to defeat and destroy the enemy at the time and place of our choosing. While our new systems are critical, we are continuing our focus on reducing the maintenance burden on our enduring fleet to the smallest level possible without sacrificing safety and using these improvements to inform sustainment requirements for our new FVL systems.

To support the ground force commander and serve as a member of the combined arms maneuver team, Aviation must be able to provide the combat power necessary to mass effects at the time and place of our choosing over expanded areas of operation. Our strength and ability to provide maneuver commanders reliable, lethal and timely support resides in our ability to maintain the readiness of our aircraft. Our enduring fleet

along with our FVL aircraft will have robust, adaptable, and interchangeable sustainment strategies to ensure we remain the most lethal option for a division commander. Essential to maintaining lethal and reliable aircraft is to ensure we provide our Soldiers with modern, relevant training and education to sustain our force for Large Scale Combat Operations. All of our modernization efforts, rigorous training, and professional education are designed to keep our Soldiers the best-trained Aviation maintenance force. The superb training, discipline, and equipping of our cohesive maintenance teams are unequaled in scale and quality. I am proud to serve with all of you and am thankful for what our maintenance teams do every day across our branch.

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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## ▶ This is Your Army!

### Army Materiel Command



## Enabling Aviation Sustainment Modernization to support an Information Age Army

By GEN Edward M. Daly

As the Army's primary sustainment and logistics command, Army Materiel Command (AMC) leads and directs the sustainment warfighting function from the installation to the battlefield, supporting warfighters and enabling mission command down to the lowest level.

To best align with the Army's priorities of people, readiness and modernization, and ensure that we meet the requirements for the future multi-domain capable force, AMC is modernizing our infrastructure, training, processes and skill sets to support next-generation capabilities.

In his initial message to the force, Chief of Staff of the Army GEN James McConville said, "We cannot be an Industrial Age Army in the Information Age. We must transform all linear

industrial age processes to be more effective, protect our resources and make better decisions." Key to this transformation is being able to see ourselves by having the right logistics data and visualizations to support commanders at all levels in making real-time, informed decisions. Emerging threats and changing operational environments require us to holistically assess and refine our approach to data analytics and information dominance in competition, crisis and conflict. We have never had access to



*Top photo: At Corpus Christi Army Depot, Texas, the Powertrain Transmission Sub-Assembly Building, a 126,500 square foot building, will provide flexible manufacturing space to house component maintenance processes, administrative and support spaces and a central energy plant.*

*Above photo: An engineer at Wichita State University scans a part from a UH-60 Black Hawk. The 3D scans will be used to digitally print copies of the part.*

the level of operational, sustainment and readiness data that we have today, nor have we had the level of sophistication in tools available to harness data to support outcome-driven decision making. AMC has partnered with industry, academia and across the defense industrial base to build the system requirements, sensors, data architectures and tools to completely transform from data warehousing to data-driven decision making.

Under AMC's direction, U.S. Army Aviation and Missile Command (AM-



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COM) is leading and partnering across government, industry and academia to affect the development and rollout of key technologies and initiatives that provide decisive tactical advantages to our aviation forces. AMCOM continues to prioritize its resources and focus on both platform and unit-based information readiness tools and technological enablers that not only inform global supply chain decisions but also inform tactical-level warfighting decisions and capabilities. AMCOM is also leading and integrating technological and business advancements from its core depot missions to its modernization integration role, all to drive outcomes for our aviators operating forward. AMCOM continues to lead Army aviation sustainment transformation by injecting future sustainment into new and modernizing systems, directing supply chain data analytics and information transformation, and modernizing our industrial base and equipment to keep pace with current, future and surge requirements.

### **Sustainment Data Analytics – Information Age Sustainment**

To best inform commanders and operational decisions in an Information

Age Army, we must first reassess and implement sustainment data production, storage and management architectures. Critical for our transition is the implementation of a comprehensive sustainment data framework, supporting the identification of opportunities and solutions for our supported units. To accomplish this, the sustainment community will move from transactional to predictive and prescriptive analytics. In the same vein as improving full Global Combat Support System-Army Increment 2 data from our Aircraft Notebook bridge to full system adoption, we will continue to drive seamless data architectures that move us from fleet to tail number operational detail and real-time analytics. We will increase our investment in new technologies such as Digital Twin mapping and Prognostic and Predictive Maintenance (PPMx) technologies across new and modernizing systems, drive standardization of data reporting across systems to improve analytics, and ensure digital and technological integration is implemented across our Organic Industrial Base (OIB). AMCOM's comprehensive data and analytics plan will serve as a guide across our sustainment formation, informing all of AMC's subordinate ac-

tivities in their sustainment transition to an Information Age Army.

### **Sustainment Integration – Driving Sustainment Forward**

Co-located at Redstone Arsenal, Alabama, with Army Futures Command's Future Vertical Lift (FVL) Cross Functional Team (CFT), AMCOM plays a pivotal role in driving sustainment concepts, performance parameters and metrics to ensure that setting tomorrow's theater includes aviation platforms capable of expeditionary operations with reduced sustainment burdens. As the aviation Army Modernization Enterprise (AME) sustainment lead, AMCOM drives key sustainment performance parameters, data technologies and supply requirements now – with direct readiness effects from first unit equipped, across the 30+ year fielding of aviation systems. Our integrated logistics and sustainment experts are not only partnered with FVL CFT, but also operate organic to the program and product managers that will acquire and field final, mission-capable systems across the force. AMCOM is also actively working today to drive technological and data improvements to our systems to support advanced sustainment metrics for our aviation fleets – metrics that drive the right behaviors within our sustainment responsibilities. For example, based on improved forecasting and continual engagement with industry, AMCOM changed the goal for aircraft non-mission capable supply status from 10% to 5%. This reflects AMCOM's ability to have the right parts available for units when they need them, and to continue to drive future performance metrics beyond traditional standards to support forward aviation operations.

### **Sensing for Battlefield Effectiveness – Enabling Decision Making Forward via Prognostic and Predictive Maintenance (PPMx)**

AMC is investing heavily in PPMx technologies across the installation, materiel and sustainment enterprise. Historically, embedding onboard sensors and diagnostics were geared toward building large amounts of pooled data, designed to drive decisions at the strategic level. However, the new shift within PPMx is to drive actionable data to tactical level formations to inform battlefield decision making. AMCOM is investing in big



data analysis and related technologies to inform maintenance and supply decisions at the tactical-unit level. The command is partnered with Army centers of excellence, program executive offices and program managers to build effective data warehousing and analysis tools such as algorithms to improve tactical Army readiness. AMCOM is working through its program executive office partners to standardize data flows and information to deliver actionable data directly into the hands of units and maintainers. As our technologies and initiatives progress, aviation units and expert maintainers will have full access to all platform data – informing tactical decisions where they matter most – forward.

### **Modernizing the Organic Industrial Base – Enabling Ready Units**

Through a 15-year OIB Modernization Plan, AMC is modernizing facilities, processes and skill sets to bring the OIB into the 21st century, infuse industry best practices and refine human resource management structures to maximize the skills and capabilities of our workforce. While the average age of facilities at Corpus Christi Army Depot (CCAD) is 45 years, the processes, investments and artisan skill levels remain innovative and capable of meeting the requirements of new, modernizing and enduring fleets. For example, CCAD facilities and overhaul capabilities are already being modified by our engineers to accommodate the emerging requirements of Future Attack and Reconnaissance Aircraft (FARA) and Future Long Range Assault Aircraft (FLRAA), earning the right to be Army Aviation's Depot Source of Repair. CCAD, in concert with AMCOM, is investing in the right tools, technologies and skills to recapitalize AH-64E, CH-47F and UH-60M as well. For example, CCAD recently opened phase two (of seven planned phases) for its new multi-purpose production facility. CCAD also uses effective public-private partnerships with several commercial enterprises, gaining and leveraging both organic and commercial technology strengths to deliver capabilities to set the theater.

### **Modernization via the Organic Industrial Base – Bridging the Gap (UH-60V)**

CCAD is maximizing the Army's investment in an enduring fleet of aircraft by upgrading the UH-60 "Lima"

model of the Black Hawk helicopter to the "Victor" model. The upgrade extends the life of the airframe, while improving technological commonalities with the Army's Black Hawk fleet, including a glass, digital suite that includes enhanced messaging between pilots, a moving map and a state-of-the-art navigation system that provides increased situational awareness. The government-owned technology package used to upgrade the aircraft maximizes competition among vendors. Using an open-system architecture approach means the software design is not dependent on proprietary systems, making it easier to add or swap components and facilitate faster future upgrades. The first UH-60V flew in September 2020 and will initially be fielded to the National Guard. The depot is slated to transition hundreds of Lima models to Victor models, keeping and building upon PPMx technologies and lessons learned during prior PPMx implementation.

### **Advanced Manufacturing – Sustainment Production at the Point of Need**

AMCOM is actively progressing advanced manufacturing capabilities to set the theaters of today and tomorrow. Advanced manufacturing refers to new ways of making existing products and the production of new products using advances in technology. Advanced manufacturing includes additive manufacturing, joining materials to make parts from 3D-model data. AMCOM is not only leading policy changes that enable these new technologies but is actively identifying and certifying spare parts to enable depot and field-level use. CCAD already uses technologies such as tagnite plating, automated blue light scanning and thermo spray plasma, but will add 3D metal printing, laser additive manufacturing and cold spray additive manufacturing over the next four years. While aviation poses unique challenges to advanced manufacturing because of safety requirements, AMCOM has assessed over 39,000 parts for use by CCAD and the field. We are actively working to build a future where required parts are built on demand, to exacting specifications and provided forward at the point of need.

AMCOM's commitment to enabling advanced manufacturing can be readily seen in our recent efforts to build a "Digital Twin" of the UH-60L. Researchers are completely disassembling

one airframe and capturing a 3D scan of each structural part, creating a virtual model, or digital twin, which will help resolve challenges and boost efficiencies for the Army's enduring fleet of Black Hawk helicopters. The primary objective of the program is to create the ability to provide support to the warfighter and increase readiness. The results can affect future maintenance and sustainment for Black Hawk for years and inform future initiatives for new and modernizing systems. Researchers at the National Institute of Aviation Research are developing the digital twin under a partnership between AMCOM, the Strategic Capabilities Office within the Office of the Secretary of Defense, and Wichita State University. This effort will help define how we accept, store and manage 3D models for future systems, including FARA and FLRAA.

### **Commitment to Army Aviation Modernization and Readiness – Supporting Today, Building Tomorrow**

From increased investments in information and decision tools, to innovation within the industrial base, AMC is postured and ready to fully support the Army and warfighters now and in the future. AMC, through AMCOM, will continue to support, develop and deliver effective technologies, sustainment concepts and outcomes that aid and assist our aviation forces and combatant commanders in setting the theater and delivering effects anytime, anywhere. As global challenges continue to evolve, AMCOM will continue to transform its portfolio of aviation sustainment solutions and systems to meet those challenges.

Heavily engaged in Army Modernization, AMC is investing early in new systems – documentation, planning, and fleet-wide decisions – to ensure our force has an effective mix of ready, reliable and lethal aviation technologies. We are fully committed to developing the Army's future vertical lift capabilities and enabling technological modernization such as advanced manufacturing, while simultaneously sustaining an effective, enduring fleet in 2028, 2035 and beyond.

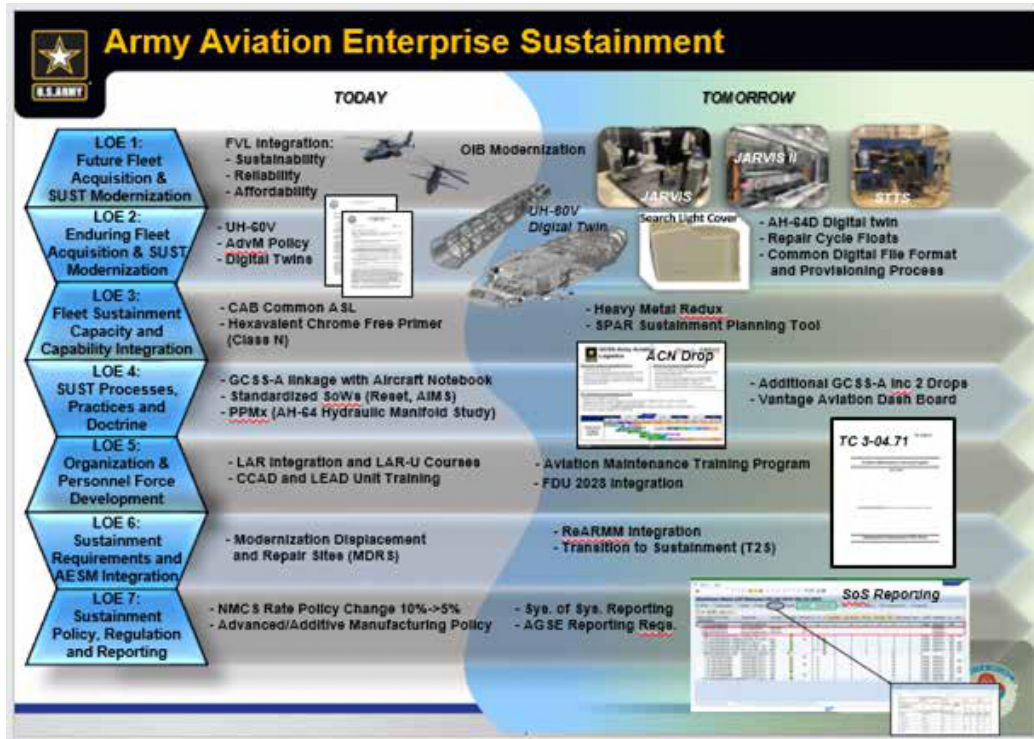


*GEN Edward M. Daly is the commanding general of U.S. Army Materiel Command headquartered at Redstone Arsenal, AL.*



## ► AMCOM Commander Update

*Editor's Note: For this AMCOM – Aviation Maintenance special focus issue, the branch chief, MG David J. Francis, has coordinated having the Army Aviation Enterprise maintenance / sustainment leader, MG K. Todd Royar, his command sergeant major, and the Branch Aviation Maintenance Officer, provide the lead, "To the Field," command group articles.*



# AMCOM Employs Army Aviation Sustainment Strategy for Enduring and Future Fleet Solutions

By MG K. Todd Royar and Mr. Tom Barthel

Army priorities are clear: People, Readiness and Modernization. Underpinning each of those is our ability to sustain both our people and our equipment.

The Army Aviation Enterprise is utilizing the Army Aviation Sustainment Strategy (AAESS) to develop solutions for the enduring fleet today that will directly lead to success in sustaining the future fleet in multi-domain operations.

Three years ago, we developed the Army Aviation Enterprise Sustainment Strategy (AAESS) to help us scope and guide all of our efforts that should ultimately be driving towards the

AAESS's five major objectives – an Expeditionary Aviation Force, Reduced Logistics Footprint, Increased Organic Capability, Improved Operational Availability and Decreased Life Cycle Costs. By using the AAESS as a guide, we can direct and enable any modernization efforts and their sustainment solutions toward more affordable, standardized, and less resource intensive solutions. The AAESS has already proven to be a useful tool getting us closer to a common destination, but there is still more work to do.

It is imperative that we use the AAESS to continue to guide the Aviation Enterprise to develop better sustainment solutions. The simple fact is that we have three primary manned rotary-wing aircraft today. However, as we bring the Future Attack Reconnaissance Aircraft (FARA) and the Future Long-Range Assault Aircraft (FLRAA) online, that number will increase to five. If we fail to gain efficiencies in the sustainment system, the sheer weight of the different systems we



have to sustain will overwhelm us. In this article we will briefly touch on how the U.S. Army Aviation and Missile Command (AMCOM) is utilizing the AAESS to guide our sustainment modernization efforts in terms of Data Analytics, Prognostic and Predictive Maintenance (PPMx), and modernization of the Organic Industrial Base.

## Digital Thread

As General Daly noted in his article, Army Materiel Command (AMC) and AMCOM are focused on using data analytics, and the so-called “digital thread,” for future sustainment. This directly supports the AAESS Line of Effort 4: Sustainment Processes, Practices and Doctrine. The term “digital thread,” however, can mean a lot of things depending on who you talk to and what role they perform. Whether it’s being able to communicate between systems, having digital blueprints of components, or the data backbone architecture designed to integrate multiple systems effectively – it all has a place. So how do we build effective systems, processes and practices that are nested with doctrine and enable sustainment success in large-scale combat operations?

The Future Vertical Lift Cross Functional Team (FVL CFT) and the Program Executive Office (PEO) Aviation have made tremendous strides in creating the *Modern Open System Approach (MOSA)* which enables components to talk to one another. That same approach is already starting to pay dividends on the Gray Eagle. To physically build the components, a 3D drawing is needed. We are using the guiding principles in the AAESS to build a digital twin of a UH-60L where every structural part is modelled in a 3-Dimensional Computer-Aided Design file. This effort is proving to be the pathfinder for FVL by determining the minimum requirements for 3D files. Finally, we need to be able to effectively store and retrieve the data. The AAESS is guiding us to develop a common database across all users vice the disparate systems we have today.

As we develop the *Prognostic and Predictive Maintenance (PPMx)* program for the Army, we need to continually relate the five objectives in the AAESS to every output. AMCOM is looking at outputs of current sensor data in conjunctions with Reliability Centered Maintenance practices to help improve the maintenance schedules of the current fleet. Moreover, we are looking to determine what analytic capability needs to be realized that will become the backbone of PPMx. Without modernizing how we process and relay sensor data to our Soldiers and more specifically our maintainers, no matter the sensor or source, we will continually search for the perfect amount and type of data that ultimately doesn’t meet our needs and continually depletes finite fiscal resources in the process. The AAESS will help scope and refine our Aviation PPMx outputs towards an affordable program allowing both predictive and prognostic maintenance. These PPMx outputs will further develop the requirements defining Limited Maintenance Free Operation Periods and only necessary maintenance as opposed to time-interval inspections and the associated multiple levels of maintenance iterations.

The AAESS is also helping to guide our efforts in modernizing the Organic Industrial Base in terms of both facilities and tooling. All of the facilities being planned and constructed at Corpus Christi Army Depot (CCAD) are being built to enable repair and remanufacturing of all current and future systems. Equally important, the tooling being procured now takes advantage of robotics and will have applicability to repair both current and future systems. For example, a new

blade-repair machine at CCAD will start repairing UH-60 blades in the next month or two reducing repair time from over 30 days to less than 7 and has the potential to do so for future blades, as well.

## Advanced Manufacturing

Additionally, we are using the AAESS to guide our Advanced Manufacturing (AM) concepts. The Expeditionary Aviation Objective will enable us to not only do AM at the depot level, but also in the field. Reduced Logistics Footprint moves us towards AM solutions that are not reliant on clean rooms, huge power-source requirements and infrastructure, and fixed AM equipment. Focusing on Increased Organic Capability promotes utilizing our depots and capitalizes on AM, shifting away from OEM required component and CLIX sourcing through the entire lifecycle of the aviation system. Our Depots and Soldiers should be sustaining our supply depth and use AM as much as possible to support ourselves both on and away from the battlefield.

In closing, I want to reiterate that the AAESS is an enterprise solution. The entire Aviation 6 Pack is focused on providing the force unparalleled lethality, reach, survivability, and reliability needed to operate on the future battlefield. Fortunately, the tenets of the AAESS apply to the current -- as well as the future force -- by design. As a result, many of the processes and systems being put in place today will enable the readiness of our current fleet as well as the success of our future fleet.

*MG K. Todd Royar is the commanding general of the U.S. Army Aviation and Missile Life Cycle Management Command at Redstone Arsenal, AL; Mr. Tom Barthel is the acting chief of the AMCOM G-3 Strategy division.*



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# Importance of Sustainment Modernization at the Operator Level

By CW5 Patrick O'Neill

As units return from a reduced operational period over the holidays, maintaining aircraft readiness can be challenging.

With reduced manpower, typical winter weather, and the current COVID-19 supply-chain disruptions, having a maintenance strategy to bridge these sustainment gaps and meet the eventual surge of flying hours is critical. What is also critical, but a little more opaque, is a strategic view on maintaining current and future fleet aircraft in Large Scale Combat Operations (LSCO) in a Multi-Domain fight. As we modernize our enduring aviation fleet and prepare for Future Vertical Lift (FVL), understanding how to apply modernization efforts and the Army Aviation Enterprise Sustainment Strategy at the tactical- and operational-maintenance levels is critical for our future fight.

Maintainers that turn wrenches and maintenance managers who advise and schedule aircraft must have a clear understanding of how maintenance will be conducted for LSCO, and what modernization efforts are currently ongoing. Developing this interconnected knowledge of strategy and modernization will reduce the learning curve when it comes to the applica-



U.S. ARMY PHOTO BY SGT. FRANKS, COLERO

Soldiers assigned to Bravo Company, 628th Aviation Support Battalion, 28th Expeditionary Combat Aviation Brigade reinstall the main rotor head on a UH-60 Black Hawk helicopter after routine maintenance at an airfield in the 28th ECAB's area of operations in the Middle East.

tion of these systems in LSCO. Some of the modernization efforts include Advanced Manufacturing, Prognostic and Predictive Maintenance (PPMx), and using sensed parts that reduce time between overhauls and enable extended Maintenance Free Operating Periods (MFOP). These are all eventualities that will reside in a maintainer's toolbox in the not too distant future.

The Army and other services are actively pursuing advanced manufacturing (AM) solutions. Of course, along with this new ability there are policies in place to help guide us in the proper use and application. Under the current policy, all AM parts must be approved before use. Three-D printed parts may look and fit as well as the original, but

they may not perform the same. U.S. Army Aviation and Missile Command (AMCOM) Policy 070-062 and AMCOM Execution Order 050-18 outline that guidance.

The AMCOM policy states that units have input into nominating which parts are evaluated for 3D scans first. Currently, most of these solutions are made above the brigade level, but the eventual focus is to get some level of advanced manufacturing to the maintainers in the field. Being able to produce a low-density part that can be used to extend operating periods or recover an aircraft forward in combat at the battalion- or company-level is something for which we should continue to strive.

The starting block of this comes



from developing 3D models of current aircraft within the fleet and any future fleets with FVL. In partnership with academia and, in particular, the National Institute for Aviation Research at Wichita State University, we have completed a 3D model of a UH-60 in the past few months. We will eventually have every aircraft 3D modeled and those scans will be available for the maintainer to use.

The 3D modeling of parts and components opens the doors of possibility to a fully printable system. The reality might be a portion of a system, or a reinforcing part derived from a maintenance engineering call. As maintenance managers or maintainers, how will this change or influence operations? Currently, there are several units that have purchased, or are in the process of purchasing, the most basic 3D printers to start manufacturing approved, non-flight critical parts and tools. The list of items will only continue to increase. Sophisticated printers will be able to produce more complex components. One day in the near future, units will be able to produce limited critical flight components. The National Guard has already started to produce several components

with 3D printers within the Aviation Classification Repair Activity Depots. Understanding how to safely and effectively employ the use of advanced manufacturing in the future will enable units to extend their reach and lethality while operating in contested environments, across dispersed footprints, for longer periods of time.

Prognostic and Predictive Maintenance (PPMx) is a key component to managing and maintaining the current and future fleet of aircraft. Past health monitoring units may have only measured vibrations, but current and future systems will create an interconnected catalogue of sortable data that can be used to efficiently manage aircraft by the tail number as opposed to by fleet. PPMx will allow for longer intervals between scheduled maintenance actions and can be individualized for specific aircraft. More importantly, PPMx will allow commanders and maintenance managers the ability to see what is going to fail next and address impending failure on components prior to the time between overhauls or well after the recommended hours for service. This will eliminate unnecessary preventive maintenance. By sustaining aircraft MFOP

utilizing PPMx with a common health indication data architecture across all fleets, and implementing tail number-based decisions, we will minimize risk and reduce maintenance man hours and authorized stockage list, while also extending operational reach and duration.

By having well-managed fleets with long MFOP, we will greatly reduce the parts needed to maintain these aircraft. PPMx will help us with this task by predicting only what's needed, thus reducing our logistical footprint. We are increasing capabilities with 3D printing and additive manufacturing to produce parts that are needed, which improves our operational availability and increases our organic capabilities. Lastly, PPMx will decrease life-cycle cost of our airframes by reduced maintenance on wing of removal and replacement of parts that still have useful safe-operating time left.

How we use and implement these tools and systems will make the difference in winning in LSCO – and winning matters.

CW5 Patrick O'Neill is the Aviation Branch Maintenance Officer, U.S. Army Aviation and Missile Command at Redstone Arsenal, AL.



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## ▶ AMCOM Command Sergeant Major Update



U.S. ARMY PHOTO BY SGT SARAH D. SAWSTER

# Successful Sustainment Modernization Requires Additional Maintenance Training

By CSM Bradford Smith

In October 2021, the Army released the four-page NCO Strategy, “Preparing Enlisted Leaders to Compete, Fight, and Win,” signed by the Army Chief of Staff, General James McConville and Sergeant Major of the Army Michael Grinston. It is a very straight-forward read on the NCO Strategy Purpose and End States that has four initiatives.

I will concentrate on only one, the “Well Trained” initiative of the NCO Strategy and “This is my Squad” in this article. We, as an NCO Corps, can achieve the well-trained status by using a holistic approach on all fronts to ensure we train our maintainers to master their respective crafts within the entire Aviation Enterprise.

Having a well-trained Soldier starts with an aviation maintenance training program for each Soldier within the unit. As Professional Soldiers, they should be trained to the highest level; that is the responsibility of the unit NCOs from

*Soldiers of the 25th Combat Aviation Brigade perform routine maintenance on AH-64 Apache Helicopters at Wheeler Army Airfield, Hawaii. Maintainers identify, troubleshoot, and repair any issues the aircraft may be experiencing.*

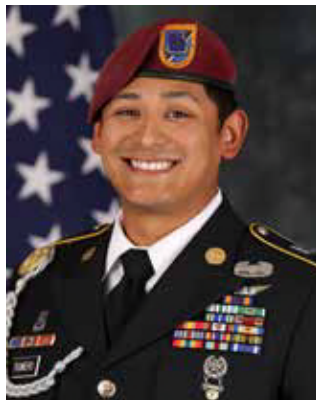
the operational lens of the Army Learning Domain. Page two in the NCO Strategy states “the most elite fighting forces in the world are built upon small units and individuals who are masters of their craft.” NCOs need to understand the purpose of the Aviation Maintenance Training Program (AMTP) TC 3-04.71, dated December 2020. Maintainers need to be proficient in their craft and have/learn the knowledge they need to progress to the next level in their respective crafts. The Aviation Branch Command Sergeant Major, CSM James Wilson, and his team at Fort Rucker, Alabama, are leading the doctrine effort on the AMTP every day. Along with the entire Aviation Enterprise, they are continuously improving maintainer training and documentation of the training in Digital Training Management System.

Trained maintainers need to ensure their paperwork is accurate, especially checking to make sure they are inputting correct work codes and accurate man-hours in logbooks, etc. This is critically important in data collecting. Maintenance is training. I am sure we have all heard this before and it is true. Maintenance is training and we should take full



## ► Enlisted Aviation Soldier Spotlight

Each issue 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 2020 National winners were featured in the April/May AAAA Annual State of the Union issue.



### Henry Q. Dunn Crew Chief of the Year, 2019

*Sponsored by Robertson Fuel Systems*

### SSG Rene A. Romero

**Company C, 1st Battalion, 160th Special Operations Aviation Regiment (Airborne) Fort Campbell, Kentucky**

Staff Sergeant Rene A. Romero is the 2019 AAAA Crew Chief of the Year due to his exceptional contributions to Charlie Company, 1st Battalion, 160th Special Operations Aviation Regiment (Airborne). SSG Romero has served as the Charlie Company Standardization Instructor and a Fully Mission Qualified crew chief for the Army's only attack and assault helicopter company, consisting of 12 highly modified MH-60M Defensive Armed Penetrator Black Hawk helicopters. Upon assuming the position of Company SI, SSG Romero assessed the company's Non-Rated Crew Member readiness and development. He created attainable goals and a plan of action to increase mission capability and to better support the special operations ground forces. His vision, leadership, and dedication to training directly increased the company's combat crews, a testament to his tenacity and ability to train Soldiers. Staff Sergeant Romero has flown a total of 1,500 flight hours, of which 600 were in combat. Additionally, 300 of those hours were flown in the Mi-17 while serving as the Standardization Instructor with the Afghani Army. He personally oversaw the training of 31 Non-Rated Crew Members in the most specialized of Army Aviation missions. He is undoubtedly the AAAA Henry Q. Dunn Crew Chief of the Year.

advantage of this opportunity. I recommend we slow down our maintenance. Yes, I said slow down our maintenance in order to take full advantage of all training opportunities, in accordance with maintenance allocation charts. We all have seen or been there when an aircraft goes down and it seems like it is a rush to get it back up. This is a great opportunity to train maintainers on a task or tasks that get the aircraft back up. With slowing down maintenance, we also need to make sure our write-ups in Aircraft Notebook (ACN) are as accurate and detailed as possible with all correct work codes. Taking full advantage of this opportunity. An aircraft breaking has the following advantages:

- Our maintainers receive training on a specific task.
- Our aircraft are properly repaired.
- The maintainers are inputting accurate data into ACN,

which will better inform maintenance on our current aircraft and our future platforms, the Future Attack Reconnaissance Aircraft (FARA) and the Future Long-Range Assault Aircraft (FLRAA), within the Predictive Prognostic Maintenance (PPMX) effort.

### Resources

The U.S. Army Aviation and Missile Command (AMCOM) can assist with this holistic approach by syncing its resources in this effort with units to help leaders, NCOs and maintainers master their craft. AMCOM's resources include:

**Logistic Assistance Representatives (LARs)** who are embedded in nearly every aviation battalion. AMCOM LARs have completed an extensive training program and are subject matter experts in their field. The LARs can and do serve as a supplement for Soldiers who are training on an aircraft task. The units can and should rely on their knowledge when developing Soldiers' troubleshooting skills. Using the

AMCOM LARs as a resource can reduce the time it takes to complete a maintenance task.

**Corpus Christi Army Depot** offers Soldiers depot-level maintenance training that gives them an in-depth knowledge, hands-on training and a wealth of experience that will enhance a Soldier's and a unit's readiness.

With an uptick in aircraft corrosion issues, AMCOM offers a **corrosion training program**. This program offers the following: A survey of the overall Corrosion Program, required biennial training, and Corrosion program hands-on assistance, training that can be offered onsite and at no cost to the unit. The Corrosion Monitoring class can be delivered virtually or as an in-person, three-day course at Redstone Arsenal, for which the unit pays TDY. The Non-Destructive Testing training can be delivered onsite at no cost or units can send personnel to Redstone Arsenal, again for which the unit pays the TDY. For more information on AMCOM's Corrosion Program, visit the website at <https://www.amcom.army.mil/Organization/Corrosion/>.

Leaders at all levels, using a holistic approach and taking advantage of all of the available resources, need to give due diligence to train, develop and certify the maintainers throughout their careers. As the battlefield continues to morph and evolve, Army Aviation must be agile in its ability to adapt to the constantly changing training environment. It is the responsibility of leaders at all levels to be committed to ensuring that units have the resources and time to provide that training. For the more we sweat in training, the less we break equipment.

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*CSM Bradford Smith is the command sergeant major of the Aviation and Missile Life Cycle Management Command at Redstone Arsenal, AL.*



## ► Combat Readiness Center Update

# Aviation Maintenance Training Programs: Are You in Compliance?

By Mr. Timothy Edgette

Failure to maintain Aviation assets affects capabilities and sustainment and has a direct impact on mission execution.

Without the attack, lift, reconnaissance, and surveillance capabilities Aviation assets provide, the best laid plans and operations are nothing more than a dream of execution. Commanders rely on Aviation support, which is predicated on having the appropriate amount of available assets to execute training and combat operations simultaneously. Therefore, it is critical that Aviation commanders evaluate their unit's ability to perform the required (forecasted and unforecasted) maintenance necessary to position assets appropriately.

Training Circular (TC) 3-04.71 is the reference for establishing an *Aviation maintenance training program (AMTP)*. The AMTP is the method by which commanders standardize Aviation maintenance training and evaluate their unit's maintenance capabilities. It began a phased implementation in October 2018 and should have been fully implemented by October 2021. The AMTP reflects a unit's ability to maintain a high operational readiness rate and establishes and defines its maintenance level (ML) designations. AMTPs are executed and maintained in accordance with TC 3-04.71 and are applicable to all components, one through three (COMPO 1, 2, 3).

All Aviation maintainers conducting maintenance, services or modifications should have an *individual critical task list (ICTL)*, which is accessible via the Central Army Registry dashboard by military occupational specialty. Instructions for accessing and creating an ICTL are in TC 3-04.71, Appendix A, Training Products Management. The ICTL should be maintained within Department of the Army (DA) Form 3513 as part of the AMTP record. If DA Form 3513 is not available, TC 3-04.71 lists a national stock number for a tri-fold folder that will be used in lieu of the individual flight records folder (IFRF).

Per TC 3-04.71, items of the AMTP record for the IFRF include a DA Form 7817, which is used to permanently record all major events and training for the individual maintainer. Additionally, located within the AMTP record are DA Form



U.S. ARMY PHOTO BY SPC STANFORD TORAN, 28TH ECAB

*U.S. Army SGT Luis Carrillo, AH-64 helicopter repairer with 4-4 Attack Renaissance Battalion, 28th Expeditionary Combat Aviation Brigade, performs routine maintenance on an AH-64 Apache helicopter in the 28th ECAB's area of operations in the Middle East.*

4856, which should be utilized to record Aviation maintenance events such as initial counseling and failed evaluations. Optional forms that may be maintained in the IFRF include DA Form 5164-R, to record an ICTL event or evaluation for an individual, and/or DA Form 5165-R, which can be used to record an ICTL event for a group of individuals/Soldiers.

Once established and maintained, the IFRF and AMTP record will allow commanders to determine if a maintainer or maintenance leader is trained and qualified or untrained and awaiting training or evaluation. Additionally, it gives commanders the ability to develop training plans and opportunities based on their unit's ML composition. Furthermore, by focusing maintenance training at the appropriate ML and standardizing training, commanders and maintenance leaders ensure all maintenance progression, proficiency and competency is evaluated and measured in the same manner. Effectively, commanders will know their unit's qualifications and capabilities and be able to program training to enhance its readiness as well as the individual maintainer's skills and capabilities.

Ensure your Aviation maintenance organizations are adhering to and maintaining an AMTP and IFRF for each maintainer. Failure to do so could have detrimental effects on your unit's effectiveness and capabilities as well as be found causal should it experience an Aviation mishap. Familiarize yourself with TC 3-04.71 and ensure your maintenance leaders and supervisors do the same.

*Mr. Timothy Edgette is assigned to the G3, Investigations, Reporting and Tracking for the U.S. Army Combat Readiness Center, Fort Rucker, AL.*



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# 11th ECAB Maintainers Demonstrate Excellence During Mobilization Training

By SPC Zachary Danaher

As the 11th Expeditionary Combat Aviation Brigade (ECAB) prepares for the largest deployment in Army Reserve Aviation history, a significant enabler for the 11th ECAB's Aviation capabilities is the behind-the-scenes work done by the brigade's support personnel.

From air traffic control operators to human resource specialists, these men and women maximize the unit's operational capabilities while minimizing the risk involved.

One group of Soldiers who especially stand out for their exceptional contributions to the Fort Carson, Colorado-based brigade's post-mobilization mission at North Fort Hood, Texas, are the Aviation maintainers. They are responsible for keeping the brigade's helicopters in a mission-ready status around the clock.

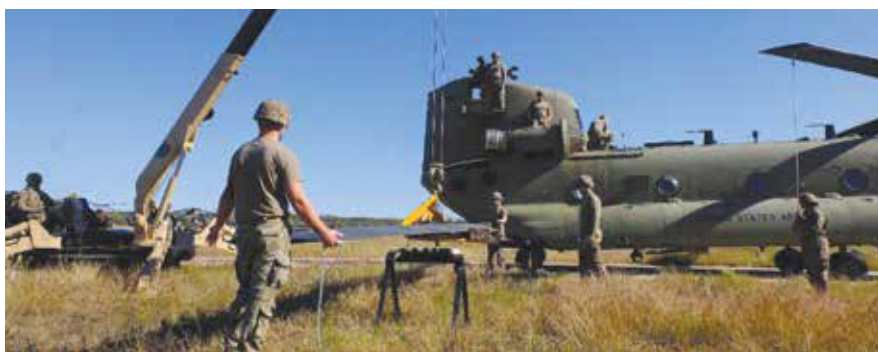
Chief Warrant Officer 5 Mark McIntosh, the 11th ECAB Aviation Maintenance Officer, describes the Army's Aviation maintainer occupation as the "magic coffee table," a phrase popularized through a skit performed by Australian comedian Troy Kinne. "The guy puts things on a coffee table, and he tells us how he doesn't understand, but whatever you put there magically disappears or fixes itself," McIntosh said. "That's exactly what everyone thinks about maintainers." The repairs and inspections that the 11th ECAB's maintainers perform daily are not done through a wave of a wand, however. They are a result of the newly revised and robust training initiative that Soldiers first receive during their initial instruction as Aviation maintainers. "Performing maintenance and training is usually accomplished in a crawl, walk then run structure," McIntosh said. "When the aircraft flew in here, they had issues and little things that break here and there that we need to fix, so our maintainers were in a dead-heat run right from the start."

These Soldiers arrived from over 40

different states at drastically different levels of expertise. Many of them met their coworkers for the first time here, and some had not yet worked on a functional helicopter outside of their initial

helicopter safer for flight crews, they were also busy setting a new standard in Army Reserve Aviation. "No one has ever attempted to do a 320-hour phase in this environment," Singh said. "So, this is somewhat like a trial run before the next unit that is out here can have the same opportunity that we did."

U.S. Army Reserve SPC Matthew King, a general maintainer with Delta Company, 7-158th General Support Aviation Battalion (GSAB), 11th ECAB, was thankful for the opportunity to build upon his skillset outside



U.S. Army Reserve Soldiers with 90th Aviation Support Battalion and Delta Company, 7-158th General Support Aviation Battalion, 11th Expeditionary Combat Aviation Brigade, perform inspections on a CH-47 Chinook at North Fort Hood, TX.

training. Their enduring resolve and professionalism would shine through, however, as the maintainers saw themselves soon tasked to a CH-47 Chinook that had reached its inspection window for 320 flight hours.

U.S. Army Reserve Staff Sergeant Salima Singh, the phase maintenance team leader for the project assigned to Bravo Company, 90th Aviation Support Battalion (ASB), led her team through a complex series of tasks that involved removing the blades of the helicopter entirely to inspect the rotors. The maintainers had 456 inspections that needed to be completed over the span of 20 days, Singh explained. Over that period, the maintenance revealed several deficiencies that were properly addressed. While the maintainers were busy making the

of the traditional battle assembly weekends in the Army Reserve. "I've gotten more comfortable on certain tasks," said King. "Clearly, I don't know everything, but I feel more prepared when they ask me to go complete a task than I was a few months ago because we are out here doing it constantly on a daily basis."

As the 11th ECAB's capable maintainers make Army Reserve Aviation history, they will continue to leverage their expanding skillsets to carry the brigade's mission forward while mobilized in support of Operation Inherent Resolve and Operation Spartan Shield. "I think it's amazing how far we've come," added McIntosh.

*SPC Zachary Danaher is assigned to the 11th ECAB Public Affairs office.*



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# The Role of Drill Sergeants in Developing Professional Aviation Maintainers

By SSG Angel Agosto

While at Fort Eustis conducting Advanced Individual Training (AIT) in their Aviation specialties, Soldiers split their time between two roles of cadre: Drill Sergeants and Instructors. A good portion of the day is spent with instructors, learning what it takes to become an Aviation mechanic, but the time outside the classroom spent with Drill Sergeants is critical to shaping these young men and women into professional Aviation maintainers and Soldiers.

A typical day as a Drill Sergeant starts before the sun even comes out and these NCOs are with Soldiers until it is time for lights out. Drill Sergeants spend so much time with the Soldiers that they become somewhat of a temporary family. The Drill Sergeants represent everything Initial Entry Training (IET) Soldiers know of the Army, and in turn these Soldiers want to emulate everything the NCOs are, everything they do, and everything they represent. Being a Drill Sergeant is one of the most demanding and complex jobs in the Army, but it can also be one of the



*Drill Sergeant Lakiesha Moore inspects a trainee's preparation for the 128th AVN BDE's "Rigor" field training exercise.*

most rewarding. No one ever forgets their drill sergeant from Basic Combat Training and AIT and that tradition continues to this day.

For this reason, it is inherently important that Drill Sergeants provide outstanding leadership to all Soldiers. A Drill Sergeant's responsibility is to provide the training that will make new

Soldiers successful in their first unit of assignment and to create a positive experience that will leave a mark as the new maintainers gain their Military Occupational Specialty (MOS). What a Drill Sergeant does with them and for them will impact the rest of their careers.

Drill Sergeants in AIT must be the symbol of excellence for all new





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trainees, experts in all warrior tasks and battle drills who live the Army values and serve as the epitome of the Army profession. They are responsible for teaching, counseling, and mentoring hundreds of young men, and women a year as they transform from civilians to Soldiers ready to go and execute the Army's mission to deploy, fight, and win our Nation's wars. There are three things Drill Sergeants want TRADOC Soldiers to be upon being released to their first unit of assignment: disciplined, fit, and well-trained. A professional and ultimately caring, Drill Sergeant-saturated environment is the best way to achieve this.

Being an Army Aviation maintainer requires attention to detail, discipline, and the drive to complete all tasks by the book. Army Aviation is an elite part of the Army that requires the best, and Drill Sergeants teaching basic principles will help Soldiers carry all of that into their daily duties. To say the least, as a Drill Sergeant, we know there is a direct link between prioritizing

leader development and organizational success. Every day the Soldiers spend in AIT is a routine, which also presents itself as an opportunity to create consistency, which then creates quality. Something as simple as showing up to formation on time or doing toolbox inventories before initiating a task will ensure the required outcome is completed safely and to the standard.

In my time as a Drill Sergeant in AIT, I can proudly say I enjoy developing the future leaders and maintainers that one day will probably be my Soldiers. Ensuring their success as professionals is one thing that I pride myself on as an NCO and a Drill Sergeant. The Soldiers Drill Sergeants lead today will be the NCOs and professionals of the future.

"Born Under Fire!"

*SSG Angel Agosto is a drill sergeant assigned to B Co., 1-222nd Aviation Regiment, 128th Aviation Brigade, Joint Base Langley-Eustis, VA.*



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# Rap Music

By Dr. Thomas L. Thompson

Ron Bednarczyk, one of my colleagues at the Systems Readiness Directorate (SRD), is an accomplished rap artist. Although you won't find Ron singing and dancing on stage, making a recording in a studio or listed among the artists on the Billboard Hot 100, you may see him "rapping" aircraft in hangars, assembly centers and test facilities.

Ron and his team of dynamics engineers conduct impact or "rap" testing to characterize the vibration of new or modified aircraft components in support of Army airworthiness releases.

Rap testing is conducted for new aircraft components or when an existing component is modified or installed in another location. The installed component is impacted with an instrumented hammer, usually at several different locations, to excite vibration modes over a range of frequencies (the mass and tip of the hammer can be varied to excite lower or higher frequencies). Tri-axial accelerometers (transducers that generate an electrical signal in response to the hammer impact force in the x, y and z directions) measure the response of the installed component and the structural elements that secure it to the airframe. Signals from the instrumented hammer and the accelerometers are collected and processed by a dynamic signal analyzer that uses Fast Fourier Transforms (FFTs) to calculate the frequency response function (FRF), which is simply the accelerometer response divided by the hammer impact force. A laptop computer is used to interface with the analyzer and to control the acquisition and processing of the data. A typical setup, showing the computer, dynamic analyzer, instrumented hammer and accelerometer, is shown in Figure 1.

The laptop computer is also equipped with specialized modal analysis software that estimates frequency, damping and the shape for each of the vibration modes (the total motion of the system is the summation of all modal responses).

The software processes and displays the results within minutes, so Ron or one of his teammates can preview the results before leaving the test area to ensure that the data has been captured correctly and that it adequately characterizes the vibration characteristics of the installation. If the data is not of sufficient quality, the team may adjust the location of one or more of the accelerometers, rap the structure with a different hammer or at a different location, or acquire and average the data over a longer period to improve consistency and reliability.

After confirming the quality of the data, the team returns to the office to complete their analysis and write a report that summarizes the test results and provides recommendations for flight. The engineers will first look to see if the natural frequencies of the installed component are separated sufficiently (by at least 10%) from the main rotor and tail rotor forcing frequencies that it will be subjected to on the aircraft. For example, if the component is to be installed on a UH-60M helicopter, which has four main rotor blades that rotate at 4.3 Hz, the team will determine if any component natural frequencies are in proximity of the primary forcing frequencies, which occur at 17.2 Hz (4/rev), 34.4 (8/rev) and 51.6 (12/rev). (Note that the forcing frequencies occur at integer multiples of the number of blades.) If there is more than 10% separation from all forcing frequencies, the team will likely report that the installation is satisfactory for flight. If there is less than 3% separation from a forcing frequency, the team may recommend the component mass,



Figure 1. Rap test setup for measuring frequency response of a pinion gear.



Figure 2. Rap test on an external store wing.

stiffness or mounting arrangement be modified to provide greater frequency separation. For intermediate cases (3-10% separation), other factors, such as the damping of the mode and the expected magnitude of the forcing at the component's location, will be considered before the team makes its recommendation.

SRD has rapped and approved a wide variety of installations for flight, including communication systems, antennae, rescue hoists, search lights, nose-mounted cameras, refueling probes, auxiliary fuel tanks, machine guns and weapons platforms (Figure 2). Rap testing is a very practical and efficient means of ensuring dynamic compatibility of a new installation. Although it takes longer than performing a rap song, the activity is relatively quick – testing is normally completed in about two hours and results are analyzed and reported to program managers within a few days.

*Dr. Thomas L. Thompson is the chief engineer for aeromechanics at the Systems Readiness Directorate, U.S. Army Combat Capabilities Development Command Aviation & Missile Center, Redstone Arsenal, AL.*



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## ► Ask the Flight Surgeon

# Flight Surgeon: Friend or Foe?

By MAJ Brett A. Matzek, M.D., FS

The relationship between a pilot and the Flight Surgeon has always been a complicated one. From the early days of Aviation, Flight Surgeons have been tasked with establishing and enforcing medical standards to improve the safety of flight.

This task, at times, means recommending that aircrew not perform flight duties if they develop a condition deemed distracting or dangerous in the flight environment. Tension sometimes arises from the perceived unilateral power of the physician to “ground” the Aviator. This action can have professional, financial, and mission consequences. While the Flight Surgeon’s goal is to keep an Aviator

healthy and flying, they also have a mandate to make flight duty recommendations to the commander.

The Flight Surgeon is specifically trained on the science of Aviation medicine as well as the science and tasks of Aviation duties. Some may wonder why the docs fly as rated crew or fly at all. It has been found to be the best way a physician can understand the stresses that aircrew face, build trust and confidence with the aircrew, and many times, it is how the doc discovers what medical issues might be present. Aviation significantly dis-incentivizes the revelation and treatment of disease. Pilots are anxiously aware that medical issues could potentially lead to grounding. This is where a good Flight Surgeon can put their aircrew at ease, as most medical issues do not require grounding, those that do are often only temporary.

It is critically important to ensure pilots are getting their information from accurate and reliable sources when it comes to medical care. Fellow pilots, hearsay, and many online sources are often inaccurate and based on incomplete information. Each situation is nuanced. Additionally, most healthcare providers are not familiar with the stressors of flight. The Flight Surgeon must interpret their



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recommendations and treatments and make flight-duty specific recommendations. Many assume that any condition will lead to the loss of the ability to fly, including common things like hypertension or sleep apnea. Obviously if this were true there would be very few eligible pilots and the Aviation mission would not get completed. Beyond the written regulations, Flight Surgeons are trained to use their Aviation medicine training and clinical judgement to determine if a condition is a danger to the safety of flight. This may be due to sudden or subtle incapacitation. They must also consider if continued flight duty is likely to worsen the aircrew's condition.

The worst thing a pilot can do is falsify their medical status, either through omission of data or production of false data. A common example is getting treatment and medications "off the books". While it is against Army regulation and illegal in the civilian world, it is also more likely to result in improper or incomplete treatment. Consider for example, getting medication from a friend or online source for treatment of mild asthma. It may seem that you are adequately controlling your symptoms, but there may be better treatment modalities available and regular disease surveillance might not be performed as it should. Poor treatment can lead to significant worsening of the medical condition over time. A manageable and flight-compatible condition could evolve over time to one that requires permanent disqualification and sometimes even a medical evaluation board.

We have all heard the phrase, "an ounce of prevention is worth a pound of cure". Pilots certainly understand this from a mechanical sense. You wouldn't let an aircraft issue pass if you knew that, if left unchecked, it could result in a catastrophic failure. The same goes for medical conditions. If they are undertreated, hidden, or ignored for too long, it leads to worsening of the condition. Consider back pain

and neck pain, a nearly universal issue for pilots, many are worried about bringing this up with their Flight Surgeon for fear of being "downed". What they may fail to realize is that treating the condition early, with conservative treatments such as proper physical therapy, can prevent permanent issues down the road. This is the case with many medical issues. Treatment early will likely result in little to no downtime, while delays in treatment may lead to permanent issues with flight status. One must also consider that there is life after the Army, whether in a cockpit or not, and those untreated chronic issues may greatly decrease your future quality of life.

Hopefully, I have made the case that the Flight Surgeon is your ally. Our goal is to keep you and your passengers safe, both during your next flight and for years beyond. A good Flight Surgeon's reflex is not to "ground" a pilot, and for most conditions the surgeon can successfully treat the condition while keeping the Aviator in the air. Build a good relationship with your surgeon, fly with them often, and have faith in their desire to keep you healthy and flying.

Fly Safe!

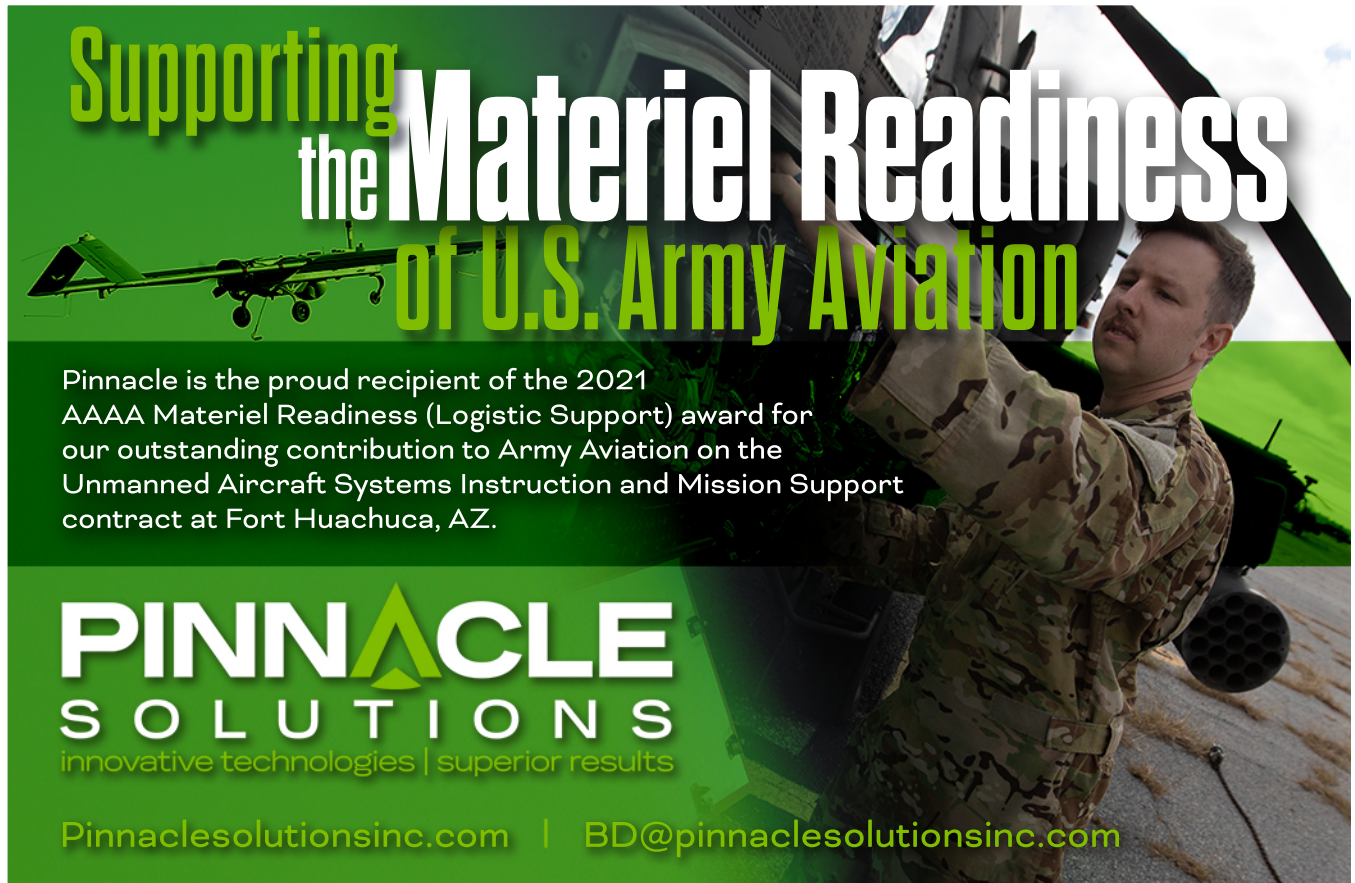
### Questions for the Flight Surgeon?

If you have a question you would like addressed, email it to [AskFS@quad-a.org](mailto:AskFS@quad-a.org); we will try to address it in the future. See your unit flight surgeon for your personal health issues.

The views and opinions offered are those of the author and researchers and should not be construed as an official Department of the Army position unless otherwise stated.

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*MAJ (Dr.) Brett A. Matzek is a flight surgeon at the School of Army Aviation Medicine, Fort Rucker, AL.*



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# A Modern Decision-Making Framework for Prognostic & Predictive Maintenance

By Mr. Danny Parker, Ph.D. and LTC Andy Bellocchio, Ph.D.

**P**rognostic and Predictive Maintenance (PPMx) is the U.S. Army's initiative to advance from reactive maintenance posture to a proactive, decision-based approach. Traditional maintenance has been the combination of correcting unexpected faults and following a prescribed preventive schedule. This is akin to General George Washington and the American Army reacting to brutally cold weather at Valley Forge as it happened with almost no advanced notice of changing conditions. Fast forward 200-plus years and weather predictions are part of our everyday life. They help us decide what to wear each day, whether it is safe to fly, and to anticipate its impact on a mission. It is so prevalent we often do not think about how today's weather prediction is informed by a network of stations and radar that feed advanced models capable of predicting weather with a varying degree of accuracy over several days.

The maturation of a PPMx is similar to the advancement of weather forecasting. Diagnostics and failure characteristics provide Aviation with a more complete understanding of an aircraft's health much like radar and weather stations define conditions in the sky. Prognostic systems forecast the health of an aircraft in the future just like weather forecast models predict daily conditions. Such information about the current and future health will inform our decisions on aircraft readiness, what maintenance needs to be done today, and which maintenance to do in the future to best posture for upcoming operational demands. Planning maintenance for the future based upon the current health of the aircraft and its forecasted state is known as predictive maintenance. The advantage of PPMx is that maintenance can be moved into periodic maintenance windows that increase operational availability, decrease lifecycle costs, and reduce mission disruption.

## Quantifying Risk

Predictive maintenance is built on a series of decisions following a framework that scientifically evaluates the likelihood

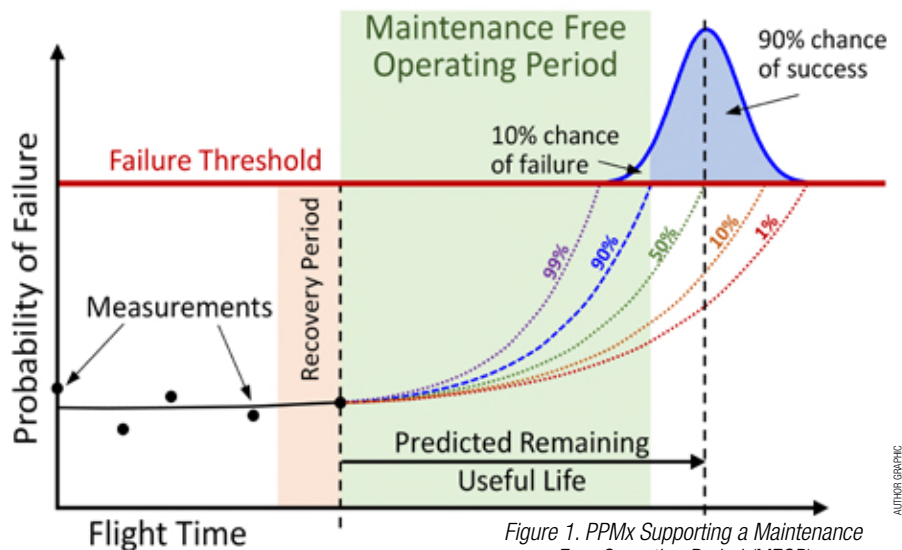


Figure 1. PPMx Supporting a Maintenance Free Operating Period (MFOP)

of component failure and its effect on the system. The approach is not much different than the Army's Composite Risk Management. Risk is defined as the product of probability (likelihood of component failure) and severity.

Severity is measured by the criticality of a fault and is denoted by the threat of injury to crew and damage to systems, repair time, repair cost, and mission disruption. The weighting and combination of these factors, from criticality to mission disruption, are defined in reliability engineering as the loss function. Risk is formally calculated using a Bayesian framework with loss functions. The likelihood of failure is updated by data taken in service and fused with the criticality to give an estimate of the risk to the platform. The risk for each component is then synthesized into an overall risk to the platform. A deep dive into this topic along with the data requirements and calculations are best reserved for a technical article; however, it is important to know the minimization of the composite risk drives the decision to conduct a maintenance action in the current window or defer to the next window. The framework accurately assesses and properly bounds predictions and conveys that information to commanders, maintainers, and logisticians.

## Using to Risk to Modernize Maintenance Decisions

Making predictions about the future is inherently a probabilistic task. Uncertainty grows the further into the future a prediction is made. We have experienced this. Weather predictions becoming less reliable the further in the future they forecast. The same is true for components that experience wear and fatigue in the rotor, flight controls, airframe, engine, drive, and weapon systems. Figure 1 illustrates the probability of failure increasing with accumulation of wear during flight hours. In practice, an onboard diagnostic system makes an estimate of the current health state. Next, expected usage and prognostic models forecast failure times where the spread increases the further in the future.

Figure 1 illustrates PPMx supporting a maintenance free operating period (MFOP). The MFOP, shaded green, provides an extended period of operation without disruption by maintenance. The recovery period, shaded orange, consolidates maintenance tasks between the operating period. The key question when entering a recovery period is, "what is the likelihood each component survives to the next recovery period?" To answer this question, a measurement is performed that assesses the health state



while in the maintenance window. This can be done through a combination of embedded solutions and non-destructive inspections (NDI). The estimated health state is then combined with expected usage to predict the remaining useful life (RUL). Because of the uncertainty in predicting the future, a range of possibilities is computed. This is shown as a blue normal distribution. The dotted lines that lead from the current health estimate to the future, represent the probability that the component survives *at least* that many hours. The most likely time of failure (highest point in the distribution) is called the *expected* RUL, but the component may fail at any of the times under the distribution.

As indicated by the blue hash area, the component has a 90% chance to remain functional by the end of the MFOP and, consequently, a 10% chance the component will fail. The future risk is the product of this 10% probability and the criticality of the component. With this estimate of the future, a maintainer has the information necessary to make appropriate maintenance decisions today. If the risk is unacceptable then framework can be queried for which components are driving the risk over the acceptable threshold.

### Uncertainty is Costly

Under PPMx, the uncertainty about the RUL adds complexity to the maintenance decision. Using the weather example, if the forecast gives a 40% chance of rain in five days, a traveler may pack an umbrella for a trip. Thus, the uncertainty about the prediction influences actions today as we hedge against future risk. The significant conclusion is that with less variation around the predicted RUL, the longer a component will remain on wing and the more benefits will be seen from PPMx.

Risk mitigation is a core goal under PPMx. To maintain safety, most of the time the failure will never occur. For aircraft using PPMx in an MFOP strategy, some near-but-not-yet-failed parts will be removed. In doing this, the maintainer is trading economically useful life for uninterrupted flight operations. These parts would still be operating in the prescribed limits but will be removed because they are expected to fail before the next maintenance window.

Our inability to know the exact moment of component failure is quantified by the uncertainty. The uncertainty about the health statement drives maintenance actions which then raise sustainment

costs and keep availability low. Better diagnostic systems and prognostic models with reduced uncertainty maximize the use of the RUL to save money and minimize mission disruption.

### Conclusion

The changes to the current sustainment system required to implement PPMx are numerous and go beyond adding sensors to the aircraft. Formalizing the decision framework first is of upmost importance since all requirements (data, accuracy, organizational, and training) flow from that implementation. Policies need to be created and changed as necessary to allow for probabilistic assessments of the future health state. Hardware requirements and standardization should be developed. Training should be done to guide humans on how to use risk-based assessments of the future and the limitations of the information provided.

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*Mr. Danny Parker, Ph.D. is a researcher with GTD Unlimited in Huntsville, Alabama and LTC Andy Bellocchio, Ph.D. is currently a member of the faculty at the United States Military Academy, West Point, New York.*



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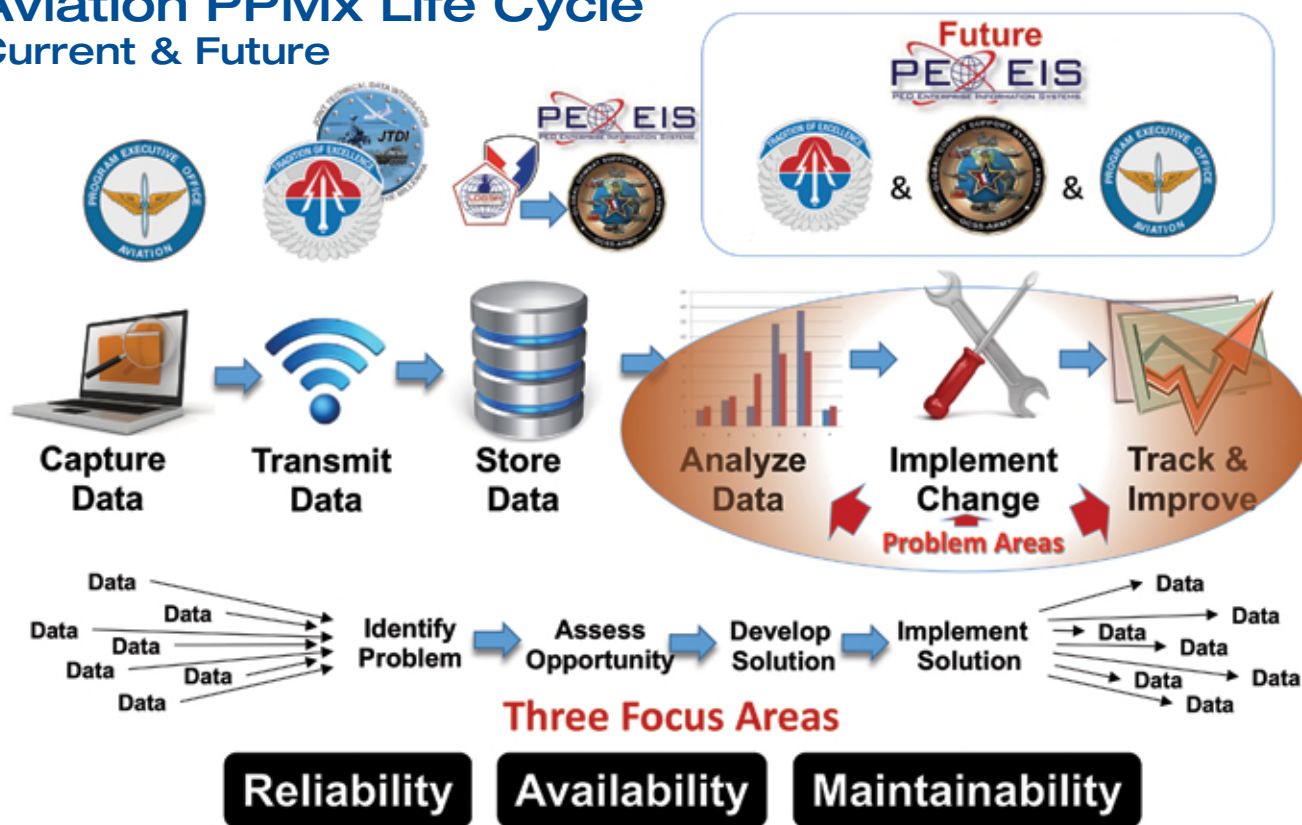
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### Aviation PPMx Life Cycle Current & Future



## AMCOM Employs PPMx to Make Faster & Better Decisions, Improve Readiness, & Build Overwhelming Combat Power

By Mr. Dave Ware

**T**he U.S. Army's Aviation Maintenance Program is at a crossroads: Either we continue to dive head-first into the 1970s or we embrace new and emerging technologies and concepts. One of the new concepts we must embrace is Prognostic and Predictive Maintenance (PPMx). PPMx as a term has replaced Condition Based Maintenance Plus (CBM+) for the Army, but it is more than just a change in terminology. It is a change in philosophy and methodology. PPMx is an evolutionary step in Condition Based Maintenance (CBM) and builds upon the success we had in the past with CBM and CBM+.

So, what is PPMx? According to the draft Department of the Army Execution Order, PPMx is "the application and integration of appropriate processes, technologies, and knowledge-based capabilities to use authoritative and emerging data to achieve foresight in combat system health

management enabling leaders to make faster and better decisions, improve readiness, and build overwhelming combat power at the point of contact."

What PPMx is not. PPMx is not one thing nor is it the sole solution to all of our maintenance challenges. PPMx is a concept and a collection of multiple things. It is sensorized components on Army equipment, reliability-centered maintenance (RCM), maintenance and supply data from Aircraft Notebook (ACN) and Global Combat Support System-Army (G-Army), and it is emerging concepts like Maintenance Steering Group, digital twins of Army aircraft, and future processes enabled by advancements in technology. All of these things combined make up the PPMx construct.

PPMx is made up of five domains: Collect, Transmit, Analyze, Decide/Act and Store/Protect. The aviation



community, specifically the three enduring aircraft platforms, have been operating within all five PPMx domains for a long time, but that does not mean that we have been doing it effectively. For example, in the collect domain, we do not have one clear download standard for our enduring platforms, this creates some confusion and impacts reoccurring downloads. Also, the data that is coming off of a platform is not in a standardized format. To fully exploit PPMx data the enterprise needs to establish a standardized data format that does not require software keys or Original Equipment Manufacturer support.

One challenging area is the Analyze and Decide/Act domains. Currently, the enduring platforms all use separate edge-of-the-platform software suites for collecting and transmitting data. The data that is transmitted to the enterprise is raw, uncleaned data, which in some cases requires software keys to view. This is problematic for members of the enterprise to then analyze the data and assist in the Decide/Act domain.

One of the most important components of PPMx is maintenance data that is found in ACN. There are two major roles the data in ACN plays. First, ACN maintenance data is the foundation for good RCM analytics. RCM, if done correctly, helps us identify maintenance drivers and bad actors. Second, ACN data supports sensor data analytics. For sensor data to be fully functional, we need to see what maintenance actions were taken as a result of the sensor

alert. That is why good, reliable ACN data is so important. The field can help with ensuring clean ACN data by doing a few simple things. First, enter the correct Work Unit Codes (WUC); second, slow down and ensure you are making clear and concise write ups; and third, make sure you are capturing the correct man hours for the task completed.

The entire Army Aviation Enterprise needs to make an effort to embrace the change that PPMx is going to bring; if not, we will never be able to exploit PPMx to its fullest. Our future systems are already embracing this change. The Future Vertical Lift Cross-Functional Team will include embedded PPMx systems that will enable us to revolutionize how we maintain aircraft. For the enduring fleet, change will start at the field level. It is important that maintainers are downloading and transmitting the data to the enterprise. Maintainers and maintenance test pilots need to ensure all PPMx hardware is serviceable and maintenance test pilots need to review the PPMx data coming off platform. These simple acts will ensure that we are successfully exploiting PPMx moving forward. In some cases, it will take time for the field to see the benefits that are realized from PPMx, but rest assured, they are coming.



*Mr. Dave Ware is the PPMx lead for the AMCOM G3M Sustainment Support Branch at Redstone Arsenal, AL.*



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# Training for Flaw Detection Is Vital Prior To Assembly

By Ms. Joyce L. Myers



*Left Top: A 3D-printed UH-60 External Electrical Connector Cover made using a digital scan. Using the digital scans of parts, Soldiers will be able to print their own replacement parts in forward-deployed areas.*



*Left Bottom: A 3D-printed UH-60 Landing Light Box made using a digital scan.*

**T**he U.S. Army Aviation and Missile Command (AMCOM) continues to lean forward and invest in the future. As an Army lifecycle management command, AMCOM develops and delivers responsive aviation, missile, and calibration readiness to the U.S. Army in order to optimize a force ready for Multi-Domain Operations. One such way that AMCOM is leaning forward is by fully embracing digital transformation to improve aviation sustainment and readiness.

Looking across the organization's people, processes, and technologies, the command identified a need for a centralized oversight of digital transformation efforts, including data and analytics governance. AMCOM's strategy and implementation framework are fully nested with the Army's Digital Transformation Strategy Lines of Effort.

In support of the Army's Digital Transformation Strategy's Lines of Effort 2 and 3 – Readiness and Modernization, AMCOM published a Data and Analytics Strategy that recognizes data as a strategic asset to achieve interoperability and for decision making. As such, AMCOM established a Data and Analytics Center to provide oversight/

governance of enterprise, non-enterprise, and digital data created by or used by the command in support of its mission.

One way in which AMCOM is employing digital data is by making **three-dimensional designs** of Army Aviation parts to replace the current two-dimensional drawings the Army uses for aviation platforms. AMCOM is currently leading the UH-60L Blackhawk Digital Twin project, a prototype effort covering different life-cycle phases including concept, proof-of-principle, and operational. This unique, complex, and innovative three-dimensional modeling effort will ultimately help reduce sustainment costs, potentially extend the life of parts, improve operational availability for existing fleets, inform advanced manufacturing projects, and posture the Army to successfully manage large quantities of data for modernized systems in the future.

As part of this integrated and multi-organizational pathfinder effort and in support of the Army Digital Transformation Strategy Line of Effort 2, People and Partnerships, AMCOM is partnering with Office of the Secretary of Defense Strategic Capabilities Office, Army Futures Command, Program



Executive Office Aviation, U.S. Army Combat Capabilities Development Command, academia and industry to complete multiple tasks as part of this proof of principle which include: receive and store three-dimensional models and global finite element models, view digital data and perform engineering analysis. This proof of principle also helps identify roles, access, hardware and software requirements, personnel and funding requirements. Additionally, it is documenting the resources required to inform not only current sustainment through lessons learned, but also inform upcoming acquisition and sustainment efforts for future aviation and ground platforms for both the Army and the Department of Defense.

As with anything new, there are often unknowns and unplanned complexities. As the project matures, multiple opportunities for reform are being identified. This effort directly aligns with the Army Digital Strategy Objective of Reform - Optimized and mission-aligned digital investments providing greater value to the Army. Throughout all phases of this project, using the people, processes, technology and methodology, AMCOM first identified the relevant

stakeholders and created a project team. This team has been instrumental in bringing forth requirements and concerns from each unique perspective that has allowed for a more comprehensive and relevant pathfinder. This will allow the Army to identify and implement digital investments supporting mission-aligned processes and technology.

The project team worked to identify existing processes and, in doing so, identified process gaps. These process gaps are, in most cases, related to gaps in resources (people and technology), an understanding of the overall effort at all levels, clearly defined roles and responsibilities across the multiple organizations, lack of funding, lack of clearly defined and/or agreed upon data standards or non-existent processes as this is an emerging technology within the DoD.

One of the key findings thus far has been the need for the Army to identify and agree upon a common system agnostic industry data standard to ensure interoperability regardless of the originating source of the digital data.

Continuing with the people, process, and technology methodology, the project team took a closer look at the existing technology and data architecture

currently used by the Army to support this digital effort. DoD is working with its industry partners to quickly procure and implement the most current software/hardware to support digital efforts and adjust the supporting architecture. AMCOM is working to mitigate software, hardware, and configuration and setting the standard for Army efforts on product lifecycle management tools and capabilities across its footprint.

As AMCOM leans forward in support of digital transformation and modernization, we continue to research and pursue cutting-edge technologies, business processes, methodologies and how best to implement them across the Army and are working to identify and cultivate the appropriate workforce skills needed to improve its sustainment missions, directly aligning with the Army's objective to create a tech savvy, operationally effective digital workforce partnered with a robust network of allies, industry, and academia.



*Ms. Joyce L. Myers is the AMCOM chief data and analytics officer located at Redstone Arsenal, AL.*

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# Corpus Christi Army Depot Supports the Army's Modernization Initiatives

By Mr. Richard Lewis



U.S. ARMY CCAD PHOTO

To meet the Army's evolving needs, Corpus Christi Army Depot (CCAD) is working to modernize and ensure it remains the Army's premier helicopter and component repair and remanufacturing facility. As the Army looks toward fielding its planned future aircraft systems, the modernization of CCAD to meet its enduring and future requirements becomes more important to the Nation. CCAD's modernization strategy is directly linked to its future 31+4 weapon system workload to ensure it is prepared and capable to provide required support at the time of need. This linkage provides Army Senior Leaders a guidepost to communicate critical decision impacts and ensure that essential modernization steps are targeted and met.

AMCOM Logistics Center and CCAD continue to work directly with the Army Futures Command, Future Vertical Lift Cross-functional Team and Program Executive Officer Aviation program managers to define and link those workload projections to backward planning to ensure those capabilities are available when needed. This strategy then links critical actions from technology implementation, industrial process changes, equipment installation, facility modernization, infrastructure resiliency and workforce

adaptability development that will increase CCAD's capability, speed, safety, flexibility, and operational efficiency.

## Technology Initiatives

Innovation, technology identification, development, and implementation improvements at CCAD are driven through Innovation champions selected from its workforce. These champions oversee the validation, planning and implementation processes. CCAD does this to ensure that only viable technologies are implemented, and appropriate plans, policies and conditions are in place to exploit the benefits of those technologies. Champions facilitate the overall effort, overcome obstacles, apprise leadership, and integrate the technology. These champion-driven initiatives support worker safety and production by increasing efficiency and accuracy, reducing re-work, and minimizing repair turnaround times.

### Current initiatives:

- Joint Autonomous Repair Verification and Inspection System (JARVIS I) – Improved manufacturing accuracy and repeatability for parts supporting UH-60 RECAP and the conversion of UH-60L models to UH-60V models.
- JARVIS II - Autonomous blade repair for the UH-60L.

*The Joint Autonomous Repair Verification and Inspection System (JARVIS II) provides autonomous blade repair for the UH-60L. It is one facet of the modernization taking place at AMCOM's Corpus Christi Army Depot.*

- Cold Spray technology - Increase asset life and capability for component rebuild.
- Blue Light Scanning - Perform complex material inspection, measurements, and templating.
- E-Drill system - Improved ergonomics, accuracy, repeatability, and speed in removing hard material fasteners on the AH-64 and CH-47.
- UH-60 Digital Twin – Provides 3D modeling of UH-60L parts to support tooling for recapitalization.

### Planned future initiatives:

- Smart Toolboxes - Automatically issue and inventory tools based on need using computer and camera-control technology.
- Collaborative Robot (COBOT) Technology - Enhance worker safety, effectiveness, and efficiency in the performance of industrial tasks.
- Industrial Control Network Upgrades – Captures automated machine information and links to data from process control systems allowing transition of information between machines, pro-



cess tracking, capture of high-quality data and timely generation of information facilitating effective management and resource decisions.

### Facility Initiatives

**Health and Safety** – AMCOM and CCAD are aggressively pursuing process and technology advances that optimize production, minimize cost, and increase workforce safety all at the same time. In FY21, the CCAD Aircraft Corrosion Control Facility became operational. This new environmentally controlled, large-scale paint facility integrates new processes and equipment into the facility to ensure mission accomplishment and provides a higher quality work environment for the CCAD workforce. This facility allowed CCAD to implement a hexavalent chrome-free primer that reduces workforce exposure risk. These efforts have since been transitioned to the aircraft maintenance footprint around the world.

**Infrastructure Planning** – Facility and supporting infrastructure modernization are the “long pole in the tent,” taking the longest to plan, program and construct, but they are critical in ensuring CCAD can meet its planned mission workload. As such, CCAD developed an Area Development Plan that lays out the planned modernization blueprint and integrates it into the overall Naval Air Station Corpus Christi’s Master Plan.

**Building 8 Powertrain** – Due to production/operational impacts, the Army made the decision to replace the existing primary industrial facility on CCAD (Building 8) with a new modern, adaptable, and flexible facility sized to meet both enduring and future missions through phased Military Construction-Army (MCA) projects. This new facility consolidates all powertrain and component repair into one facility, Building 1700. This phased MCA effort remains on a two-year execution schedule, with two phases complete and operating, one under construction, one in the design, and the last two in the planning/programming phase. Along with being a modern, bright, and clean workspace that increases the flexibility and capacity of the depot to meet its mission, it also provides an energy-efficient modern work environment for CCAD’s artisans that has been hardened and elevated above historical and expected hurricane storm surge to provide additional resiliency for the mission to withstand and recover from

extreme weather events with changing climate conditions.

**Aircraft Remanufacturing** – Hangar modernization to support aircraft recapitalization efforts began in FY21 and will provide more operationally flexible and energy-efficient facilities and equipment. With the addition of HVAC capabilities to these hangars, these improvements will reduce worker risk of heat-related injuries, increase hours that work can be performed, and help minimize corrosion. Further modernization of the remaining three hangars will continue in out-years. In the long term, CCAD will consolidate all primary recapitalization efforts into a new facility (Aircraft Remanufacturing Facility) located where the existing Building 8 footprint is currently, through another multi-phase MCA project effort.

### Workforce Initiatives

Human capital is a critical effort within the CCAD strategy. As workload changes, to support new weapon systems, the processes, facilities, and workforce all need to be ready to meet those requirements. CCAD has recruitment, development, and retention programs in place. Those programs will adapt to the changing needs of the production floor so that the artisans with the

prerequisite skills are available when needed. CCAD is currently pursuing the development of a Virtual Interactive Environment Trainer that would allow artisans to be trained on repairs to engines, transmissions, gearboxes, and structures. When implemented this would reduce the current workload on the most capable artisans by mentoring the younger workforce, allowing them to directly impact workload execution. It would also allow for cross training of individuals making them more flexible and adaptable to a changing workload.

### Conclusion

CCAD will remain the premier helicopter and component repair and remanufacture facility by understanding its current and future workloads and ensuring its workforce, processes, equipment, and facilities are capable and flexible to meet those requirements. This integrated approach allows CCAD to meet the Army’s and DoD’s helicopter and component repair effectively and efficiently and remanufacture requirements into the future.

---

*Mr. Richard Lewis is the chief of the Engineering Branch at Corpus Christi Army Depot, TX.*



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# National Award Recipients

## Army Aviation Association of America

AAAA presented the 2019 and 2020 National Awards, the 2020 and 2021 Functional Awards, and conducted the 2020 and 2021 Hall of Fame Inductions during the 2021 Joseph P. Cribbins Training, Equipping & Sustainment Symposium, Nov. 15-17, at the Von Braun Center, Huntsville, AL. The presentations/inductions were delayed until this first in-person gathering as a result of the safety and health procedures/restrictions related to the coronavirus pandemic. Congratulations to all our awardees and inductees.

## AAAA National Award Recipients 2019 & 2020

The awardees were congratulated by LTG Erik C. Peterson, Deputy Chief of Staff, G-8, U.S. Army and the Army Aviation Branch Chief and Commanding General of the U.S. Army Aviation Center of Excellence, MG David J. Francis.



**Joseph P. Cribbins**  
**Department of the Army**  
**Civilian of the Year, 2019**  
*Sponsored by The Boeing Company*  
**Mr. John R. Scott**  
Headquarters and Headquarters  
Company, 1st Battalion,  
223rd Aviation Regiment, Fort  
Rucker, AL



**Rodney J.T. Yano NCO of  
the Year Award, 2019**  
*Sponsored by Lockheed Martin  
Corporation*  
**Ssg Kevin N. Brandt**  
Company B, 2nd Battalion  
160th Special Operations  
Aviation Regiment (Airborne)  
Fort Campbell, KY



**Robert M. Leigh Award,  
2019**  
*Sponsored by Airbus*  
**Detachment 1, Company D  
177th Brigade Engineer  
Battalion**  
(Georgia Army National Guard)  
Savannah, GA  
Accepting the award CPT  
Robert W. Gartner (Commander);  
SFC Lee Muñoz (Senior NCO)



**USAR Aviation Unit of the  
Year, 2019**

*Sponsored by Honeywell*  
**5th Battalion, 159th  
Aviation Regiment**  
Joint Base Langley-Eustis, VA  
Accepting the award – LTC Nathan  
T. Chernecke (Commander)



**John J. Stanko ARNG  
Aviation Unit of the Year,  
2019**

*Sponsored by Honeywell*  
**1st Battalion, 130th  
Aviation Regiment**  
Morrisville, NC  
Accepting the award – LTC Mark  
A. Van Veldhuizen (Commander)



**Active Aviation Unit of the  
Year, 2019**

*Sponsored by L3Harris*  
**1st Battalion, 1st Aviation  
Regiment**  
Combat Aviation Brigade, 1st  
Infantry Division, Fort Riley, KS  
Accepting the award – MAJ  
Richard D. Kubu and 1SG David A.  
Garcia



**Outstanding Aviation Unit  
of the Year Award, 2019**

*Sponsored by The Boeing Company*  
**160th Special Operations  
Aviation Regiment  
(Airborne)**  
Fort Campbell, KY  
Accepting the award – COL Kyle M.  
Hogan (Deputy Commander);  
CSM Christopher J. Kitchens  
(Senior NCO)





# National Award Recipients

## Army Aviation Association of America

Note: The following individual awardees for 2019 were not able to attend; their award was accepted by a member of their command or MG Francis

**James H. McClellan Aviation Safety Award –**  
**CW3 Frank D. Kirby**, 3-160th SOAR (Abn)  
**Gary G. Wetzel Aviation Soldier of the Year –**  
**SPC Zackery P. Packer**, D/3-160th SOAR (Abn)

**Henry Q. Dunn Crew Chief of the Year –**  
**SSG Rene A. Romero**, C/1-160th SOAR (Abn)  
**Michael J. Novosel Aviator of the Year –**  
**CW3 Nicholas N. Nenoff**, B/1-160th SOAR (Abn)



**Joseph P. Cribbins**  
*Department of the Army*  
**Civilian of the Year, 2020**

*Sponsored by The Boeing Company*  
**Ms. Crystal D. Martinez**  
 Headquarters and Headquarters  
 Company,  
 3rd Battalion, 160th Special  
 Operations Aviation Regiment  
 Hunter Army Airfield, GA



**James H. McClellan**  
*Aviation Safety Award,*  
**2020**

*Sponsored by General Electric*  
*Aviation*  
**CW3 Daniel A. Cruz**  
 1st Squadron, 17th Cavalry  
 Regiment  
 Task Force Sabre  
 82nd Combat Aviation Brigade  
 Fort Bragg, NC



**Gary G. Wetzel Aviation**  
**Soldier of the Year Award,**  
**2020**

*Sponsored by Bell*  
**SPC (now CPL) Benjamin**  
**E. Mingus**  
 Company D, 1st Battalion,  
 101st Aviation Regiment  
 Fort Campbell, KY



**Henry Q. Dunn Crew Chief**  
**of the Year Award, 2020**  
*Sponsored by Robertson Fuel Systems,*  
*L.L.C.*

**SSG Jaymeson K. Busche**  
 Company C, 1st Battalion,  
 160th Special Operations  
 Aviation Regiment (Airborne)  
 Fort Campbell, KY



**Robert M. Leich Award,**  
**2020**

*Sponsored by Airbus*  
**CW3 Jeremy B. Rogers**  
 Company F, 1st Battalion,  
 160th Special Operations  
 Aviation Regiment (Airborne)  
 Fort Campbell, KY



**John J. Stanko ARNG**  
**Aviation Unit of the Year,**  
**2020**

*Sponsored by Honeywell*  
**2nd Battalion, 147th**  
**Aviation Regiment**  
 Task Force Ragnar  
 Saint Paul, MN.  
 Accepting the award – CSM John  
 J. Thompson (Senior NCO)



**Active Aviation Unit of the**  
**Year, 2020**

*Sponsored by L3Harris*  
**1st Squadron, 17th**  
**Cavalry Regiment**  
 Task Force Sabre  
 82nd Combat Aviation Brigade  
 Fort Bragg, NC  
 Accepting the award, LTC Joseph  
 A. Clark (Commander); CSM Daniel  
 A. Lambarena (Senior NCO)



**Outstanding Aviation Unit**  
**of the Year Award, 2020**

*Sponsored by The Boeing Company*  
**34th Expeditionary**  
**Combat Aviation Brigade**  
 St. Paul, MN  
 Accepting the award – MAJ David  
 A. Wagner and SGM Mark A.  
 Swedeen



# Functional Award Recipients

Army Aviation Association of America

## AAAA Functional Award Recipients 2020 & 2021

The awardees were congratulated by LTG Thomas H. Todd, Deputy Commanding General for Acquisition & Systems Management, U.S. Army Futures Command, and the Commanding General of the U.S. Army Aviation and Missile Command, MG K. Todd Royar.



**Outstanding Logistics Support Unit of the Year, 2020**  
*Sponsored by AAAA*

### **834th Aviation Support Battalion**

34th Combat Aviation Brigade  
Camp Buehring, Kuwait  
Accepting the award –  
MAJ David A. Wagner  
(Commander); CSM Marc A.  
Dempsey (Senior NCO)



**Materiel Readiness Award For A Contribution By A Major Contractor, 2020**  
*Sponsored by AAAA*

### **M1 Support Services**

Fort Rucker, Alabama  
Accepting the award –  
Ms. Kathy Hildreth



**Unmanned Aircraft Systems Soldier of the Year Award, 2020**

*Sponsored by General Atomics Aeronautical Systems, Inc.*

### **CW2 John C. Hergert**

Company D, 82nd Aviation  
Regiment,  
82nd Combat Aviation Brigade,  
Fort Bragg, North Carolina



**Unmanned Aircraft Systems Unit of the Year Award, 2020**

*Sponsored by Textron Systems*

### **Company D, 82nd Aviation Regiment**

82nd Combat Aviation Brigade  
Fort Bragg, North Carolina  
Accepting the award – CPT Ryan T.  
Eckerson (Commander)



**Army Aviation Fixed Wing Unit Award, 2020**

*Sponsored by CAE USA Defense & Security*

### **206th Military Intelligence Battalion (Aerial Intelligence)**

Bagram Airfield, Afghanistan  
Accepting the award –  
LTC Alex M. Humes and 1SG  
Russell L. Lane.



**Outstanding Logistics Support Unit of the Year, 2021**

*Sponsored by AAAA*

### **628th Aviation Support Battalion**

Task Force Roadrunner  
Camp Buehring, Kuwait  
Accepting the award –  
LTC Michael S. Gross  
(Commander); CSM Scott W.  
Fleming (Senior NCO)



**Materiel Readiness Award For A Contribution By An Individual, 2021**

*Sponsored by AAAA*

### **Mr. Kevin Belden**

DigiFlight, Inc.  
Huntsville, Alabama





# Functional Award Recipients

Army Aviation Association of America



**Materiel Readiness Award  
for a Contribution by a Small  
Business, 2021**  
*Sponsored by AAAA*

**Pinnacle Solutions, Inc.**

Huntsville, Alabama  
Accepting the award –  
Tina Tucker (left) and Krista Ochs



**Materiel Readiness Award  
for a Contribution by an  
Industry Team, Group Or  
Special Unit, 2021**  
*Sponsored by AAAA*

**Project Manager  
Apache New Equipment  
Training Team**

DigiFlight / VTG Defense /  
System Studies & Simulations,  
Inc., Huntsville, Alabama.  
Accepting the award – Mr. Stanford  
Oliver (left) and Mr. John Haeme



**Materiel Readiness Award  
for a Contribution by a Major  
Contractor, 2021**  
*Sponsored by AAAA*

**M1 Support Services**

Fort Rucker, Alabama  
Accepting the award –  
Mr. William Shelt



**Unmanned Aircraft Systems  
Soldier of the Year Award,  
2021**  
*Sponsored by General Atomics  
Aeronautical Systems, Inc.*

**SGT Damian P. Del Rae**

Company F, 2nd Battalion,  
160th Special Operations  
Aviation Regiment  
Fort Campbell, Kentucky



**Unmanned Aircraft Systems  
Operations Technician of the  
Year Award, 2021 (inaugural)**  
*Sponsored by AAAA*

**CW4 Joseph M. Whittaker**

Company E, 2nd Battalion,  
160th Special Operations  
Aviation Regiment  
Fort Campbell, Kentucky



**Unmanned Aircraft Systems  
Unit of the Year Award, 2021**  
*Sponsored by Textron Systems*

**Company E, 2nd Battalion,  
160th Special Operations  
Aviation Regiment**

Fort Campbell, Kentucky  
Accepting the award – MAJ Joshua  
B. Kassel (Commander); 1SG Tony  
J. James (Senior NCO)



**Army Aviation Fixed Wing  
Unit Award, 2021**  
*Sponsored by CAE USA Defense &  
Security*

**15th Military Intelligence  
Battalion (Aerial  
Exploitation)**

Fort Hood, Texas  
Accepting the award – LTC Erin P.  
Davis (Commander); CW4 Frank M.  
Webb (Senior NCO)

Note: The following individual  
awardees for 2020 were not  
able to attend; the award was  
accepted by a member of their  
command or MG Francis –

**Rodney J.T. Yano NCO of the  
Year –**

**SGT Daniel J. Crandall,**

1-58th Avn. Regt.

**Michael J. Novosel Aviator of  
the Year –**

**CW2 Joseph C. Dadiomoff,**

B/1-160th SOAR (Abn)

There was no USAAR Unit of the  
Year selected for 2020.



# Hall of Fame Inductees

## Army Aviation Association of America

*The induction was conducted by Dr. (COL, Ret.) Hal Kushner, past chairman of the Hall of Fame Trustees, and Army Aviation Branch Chief and Commanding General of the U.S. Army Aviation Center of Excellence, MG David J. Francis.*

**2020**



SGM Gregory M. Chambers (left of photo) with escort, Hall of Fame member CSM (Ret.) Buford Thomas Jr.



CW5 Douglas M. Englen (left of photo) with escort, Hall of Fame member CW5 (Ret.) Gerold Dean Brown



MG David J. Francis accepts the induction on behalf of LTC Ace A. Cozzalio (Deceased) and his family

**2021**



CSM (Ret.) Tod L. Glidewell (left of photo) with escort, Hall of Fame member SGM (Ret.) Kenneth G. Rich



CW5 (Ret.) Daniel R. Jolotta (left of photo) with escort, Hall of Fame member CW5 (Ret.) Paul L. Price



CPT (Ret.) James E. Stein (left of photo) with escort, Hall of Fame member COL (Ret.) William S. Reeder





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# AAAA 16th Luther G. Jones Army Aviation Depot Forum Held in Corpus Christi

By Kathleen (Kat) Pettaway-Clarke



ARM PHOTO BY BILL HARPS

**A**nother indication of Texas resumption to normalcy was the Army Aviation Association of America hosting the 16th Luther G. Jones Army Aviation Depot Forum at the Solomon P. Ortiz International Center Dec. 7-8. This year's theme was "Modernizing Depot Maintenance in Sync with Army Aviation." Retired MG Tim Crosby, AAAA national president, emceed the event. The last forum was held in 2019.

The forum was named after the former Corpus Christi Army Depot commander and Corpus Christi mayor. COL Luther Griffin Jones Jr. served in the U.S. Army during World War II from 1939 to 1945 and the Vietnam War from 1958 to 1973; he then served as the mayor of Corpus Christi from 1979 to 1987.

During opening remarks, CCAD Commander COL Joseph H. Parker complimented the dedication of CCAD workforce for their support of the warfighter throughout the pandemic. "We have a great workforce, with outstanding members who perform great things daily - they are people from this community," Parker said. "We can't thank them enough. Every day CCAD has been open for business to keep the Army flying."

Attendees received updates on CCAD's current and future workforce, modernization efforts and readiness plans. Industry partners, potential partners and military elements were

*BG (Ret.) Tim Edens (AAAA National Secretary, left) moderates a panel discussion with industry representatives (left to right) Glenn Isbell (Bell), Dina Halvorsen (Sikorsky), COL (Ret.) Garner Pogue (General Electric), and David McFarland (Parker Hannifin Corp).*

able to gather once again and discuss technological advancements of each organization.

## Opening

"We have a lot of public private partnerships that allow us to work together with industry and our local educational institutions," Parker said. "By working together, CCAD produces fantastic aircraft. CCAD is an original equipment manufacturer with partnerships that transform the UH-60L to UH-60V."

In a prerecorded video message, Rep. Michael Cloud, Texas 27th Congressional District, said, "Army aviation is vital to national defense. The work at CCAD - the products and the value of the artisan's work - is being noticed on a national level."

U.S. Army Materiel Command Soldier of the Year SPC Christian Kerkado-Colon served as an escort to Corpus Christi Mayor Paulette Guajardo. "As mayor of the city, our support for our base and their tenants will remain strong. As one of the largest employers in our city, the relationship must also be seamless." One out of 100 people in the Corpus Christi area is employed at CCAD. The depot has an economic impact of \$1.7 billion to the local community.

MG Todd Royer, U.S. Army Avia-

tion and Missile Command commanding general, delivered the keynote address. "Processes, policies and procedures in place will ensure CCAD's viability moving into the future," he said. "That includes its organic industrial base possessing the capacity and the capability for large scale combat operations."

CCAD will take possession of a robotic blade repair machine, known as Joint Autonomous Repair Verification and Inspection System II. Blade repair time will be reduced from 30 days to less than one week. Royer expressed the importance of protecting intellectual property and traceability for accountability purposes in modernization technologies.

"Additive manufacturing components should be cataloged for traceability," he said. "So, if a part is manufactured accurately and cataloged, we'll be able to identify whether CCAD, Rock Island [Arsenal] or elsewhere produced the part. Ideally, the label would read 'produced by Corpus Christi Army Depot.'"

"As far as working together, our industry partners help [Army aviation] to increase the product quality."

## Panel Discussions

In the future, CCAD will support sustainable strategic depth for the aviation enterprise. A recurring sentiment



at the forum was having a unified or standard approach to the industry and Army prognostic predictive maintenance throughout the forum – in other words, have similar products that fit in all aircraft to benefit the maintainer.

Think tanks assembled to brainstorm how organizations could modernize and partner to benefit the warfighter. Collaborative opportunities with military leaders, government civilians, industry leaders and academic institutions were part of the panel discussions that mutually supported the depot's modernization plans was the key.

Some modernization topics included augmented virtual reality and digital dashboards/ digital demands; additive manufacturing and blue light technology, thermoplastics, plating and cold spray. Additional modernization topics were rapid prototyping, advanced blade repair and manufacturing innovations.

During a panel discussion, AMCOM Logistics Center Executive Director Brian Wood expanded on predictive maintenance. "It involves correct data as a key point of communication, changes to onboarding item managers, more in-depth processes for contracts and further supply engagements with partners," he said. Additive manufacturing data collection points can also be an information resource to fix aircraft, ultimately shortening maintenance periods. The 'complexity' issue is the need for all depots and partners to communicate to work better collectively, but, ultimately, the end-state is to sustain the readiness of our nation.

The CCAD commander chaired a panel discussion on the simulation training environment. The idea is to conduct training and actual work implementing virtual reality with artificial intelligence. For instance, donning safety goggles is a safety requirement. Imagine in the future completing maintenance with goggles that could provide step-by-step instructions and project aircraft schematics.

Another aspect of Army aviation modernization is the expectation of our customers. How they will think and react to the need for technological upgrades of helicopters. Customers expect quality, cost-effectiveness and timely product delivery.

Other panel discussions were based on CCAD's future workforce efforts towards sustainability. One idea discussed was customizing a training program that artisans can refine skills before entering the work center.



AAAA Donald F. Luce Depot Maintenance Artisan of the Year awardees – (Right) Jose Isabela for 2020 and (Left) Lauro Moya for 2021.

## 2020 and 2021 Artisans Of The Year

Two CCAD artisans were awarded the AAAA Donald F. Luce Depot Maintenance Artisan of the Year: Jose Isabela for 2020 and Lauro Moya for 2021. This national award is presented to people who have made an outstanding individual contribution to Army aviation in depot maintenance during the award period commencing July 1 to June 30. Isabela authored a new standard implemented by the Occupational Safety Health Administration for hexavalent chromium reduction in Army aviation platforms. The process has changed the base of Army aviation rotary-wing coatings for the UH-60 Blackhawk, AH-64 Apache, CH-47 Chinook and OH-58 Kiowa.

Moya distinguished himself as a work leader and subject matter expert. He ensured the safety of personnel, protection of the environment and aircraft assets during relocation and release for production. He was directly responsible for the first UH-60L to UH-60V aircraft coated with the Class N primer ahead of schedule which was a milestone for CCAD in the removal of heavy metals from painting operations.

## Looking Forward

A possibility for next year's event is to have a Theater Aviation Support Maintenance Group partnership meeting as a pre-forum event. Parker broached the possibility of involving all end-users in conversations about modernization as part of the process of developing the technology needed in combat operations. "During the forum we have made connections, established and reestablished contacts," Parker said. "We are moving forward together."

AAAA will host the 17th Luther G. Jones Army Aviation Depot Forum Dec. 6-7, 2022 in Corpus Christi.

*Kathleen (Kat) Pettaway-Clarke is lead public affairs officer for Corpus Christi Army Depot.*



U.S. ARMY 160TH SOAR ABN COURTESY PHOTO



# Self-Deployment of Unmanned Aircraft Validates Concept for Expeditionary Split Operations

By CW4 Dan Brechwald

**O**n September 3, 2021, Soldiers from F Co., 2nd Battalion, 160th Special Operations Aviation Regiment (Airborne) (SOAR (Abn)) safely executed the Army's first cross-country, self-deployment (SD) of an MQ-1C Gray Eagle-Extended Range (GE-ER) through national airspace (NAS).

The flight took less than one day with an optional refueling stop to test new unit-internal Multi-Domain Operations (MDO) UAS employment techniques and covered 1,500 nautical miles. It also proved the concept of a new employment tactic developed by 160th SOAR (Abn) called Expeditionary Split Operations (ESO). The success of this flight will prove transformative in Army Aviation history and cement a new capability for Army UAS.

## Validating the Concept

The SD landing was the culmination of a mission that started four days earlier and after months of planning and preparation. After navigating a unique mission approval process, coordinating arduous airspace agreements, and evading Hurricane Ida weather impacts, 160th SOAR (Abn) proved that the MQ-1C GE-ER aircraft could safely navigate through NAS.

Using lessons learned from the event and application of ESO, UAS SDs will quickly become widespread to a variety of exercises and operations. Besides the benefit of providing immediate use of UAS assets for follow-on operations, ESO saves countless aircraft tear down and build-up maintenance man hours. This efficiency conserves maintenance crews and resources and adds a level of safety to prevent unintended accidents or damage while

*Above photo: The MQ-1C Gray Eagle is a medium-altitude, long-endurance unmanned aircraft system.*

assembling or disassembling the aircraft. It also greatly decreases material fatigue on components and parts.

## IFR Proficiency in NAS

The SD reinforced the need for UAS operator Instrument Flight Rules (IFR) qualifications and proficiency training. ESO requires operations in Class A airspace that mandates IFR compliance or to fly in the NAS using IFR rules while maintaining Visual Flight Rules (VFR). In addition, Army Regulation 95-1 dictates "Over-the-top flights: Aircraft will not be flown above a cloud or fog layer under VFR for more than 30 minutes unless--(Unmanned) The UAS and crew are authorized to conduct IFR flight."

The 160th SOAR (Abn) currently provides advanced IFR training to improve readiness and proficiency for future UAS ESO. It is the unit's intent to train and prepare Soldiers to operate safely in Federal Aviation Administration (FAA) controlled airspace, International Civilian Aviation Organization (ICAO) controlled areas, or any worldwide location controlled by other aviation governing agencies.

All Army MQ-1C GE-ER units hoping to fly in the NAS will need IFR qualifications to operate and/or safely recover UAS assets during Inadvertent Instrument Meteorological Conditions (IIMC) emergencies. IFR training, currency, and proficiency is essential to conducting SDs/ESO and adds a significant level of safety.



## ESO

ESO is a unique endeavor developed to achieve specific UAS objectives in a foreign country against near-peer threats while conducting Large Scale Combat Operations (LSCO). It also incorporates the need for rapid expeditionary deployment and survivability requirements within a dynamic MDO battlespace.

Commanders wanting to use the MQ-1C GE-ER UAS must anticipate a variety of electronic countermeasures, integrated air defense systems (IADS), and actual physical attacks on UAS facilities and aircraft. ESO will help mitigate the enemy's ability to destroy critical UAS assets and allow commanders the full spectrum of UAS capabilities. The SD validated the ESO elements of dispersion, rapid deployment and dislocated command and control (C2) techniques.

Additionally, the 160th SOAR (Abn) is developing another capability which enables the tactical employment of aircraft capable of multi-intelligence information collection and fires across diverse environments and contested domains.

## ESO in MDO

Applying ESO to MDO is essential to avoid UAS site consolidation and mitigate the potential near-peer threat. ESO requires a dislocated structuring of the Beyond Line of Sight (BLOS) and Line of Sight (LOS) capabilities in order to protect equipment and avoid catastrophic loss of all the UAS assets at once. Splitting the MQ-1C GE-ER company provides BLOS redundancy and survivability. Each location can further divide into one Expeditionary Mission Control Element (EMCE) and one to two Expeditionary Launch and

Recovery Elements (ELRE) as needed.

To simulate ESO during the SD, 160th SOAR (Abn) established the EMCE at the departure airfield and two ELREs (en route and terminal) along the route of flight. At the established time and location, the en route ELRE took control of the aircraft via LOS and landed it safely for refueling. Once complete, the en route ELRE launched LOS and passed BLOS control back to the EMCE for the flight to terminal ELRE.

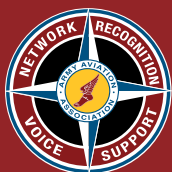
Although both BLOS and LOS capabilities existed at the terminal ELRE, the command decided to execute a SAT-COM landing in order to simulate a realistic scenario of deploying unmanned aircraft to forward locations.

160th SOAR (Abn), with proper airspace authorizations, now has the potential to support all exercises within the U.S. with MQ-1C GE-ER assets. This new ability can make habitual working relationships and synchronization with supported units far easier and improve overall lethality and interoperability.

ESO highlighted the reduction of maintenance requirements and material fatigue while improving overall operational safety. It also solidified the need for well-trained, qualified, and proficient IFR rated MQ-1C GE-ER operators.

The SD validated the ESO proof of concept as a valuable technique for rapidly deploying and operating in an MDO environment while maintaining dispersion, redundancy and survivability against near-peer threats.

*CW4 Dan Brechwald is the executive officer for F Company, 2nd Battalion, 160th SOAR (Abn) and served as the UAS commander for the MQ-1C GE-ER self-deployment described in the article.*



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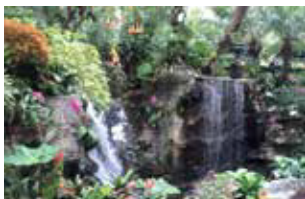
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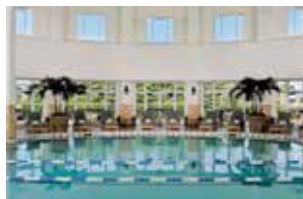
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# NSA '47 and Army Aviation, Part III

By Mark Albertson

*Editor's Note: This is the third article in a four part series.*

**T**he National Security Act of July 26, 1947 was an effort to refashion the defense establishment for the post-World War II era. Per this new structure, three major departments of the armed forces appeared: The Navy, the Army and the Air Force, the latter having been detached from the Army to become a separate service. On the same day President Harry Truman signed the National Security Act of 1947, he signed Executive Order 9877, covering the functions of the Armed Forces.

The seeds for such reorganization of the American military establishment were sown during the hearings before the House Select Committee on Post War Military Policy, April 24 to May 19, 1944. America was making the jump from global power to superpower and the appropriate military posture was required to service said status of power.

## Reorganization

NSA '47 bore resemblance to a study put forth by Lieutenant General Joseph T. McNarney, Deputy Chief of Staff, U.S. Army, on April 25, 1944.<sup>1</sup> The plan featured the President, Chiefs of Staff, Secretary of the Armed Forces, undersecretary for each of the separate services, Navy, Army and Air Force. It reflected an acceptance of the reality of modern war; a reality reinforced with the advent of the atomic bomb in August 1945: That the United States required a sophisticated, professional armed forces to execute its interests in the postwar world then developing.

Among the changes inherent in NSA '47 was the demise of the War Department, replaced by the Department of the Army; while the Secretary of War became the Secretary of Defense. The Department of the Army, which included the United States Army, "Shall include land combat and service forces and such aviation and water transport as may be organic therein. It shall be organized, trained and equipped primarily for combat and sustained combat incident to operations on land. . ."<sup>2</sup>



NSA '47 was promulgated during the administration of Harry S. Truman



Mr. James V. Forrestal, former Secretary of the Navy, who became the first Secretary of Defense within the New Military Establishment following World War II, September 17, 1947 to March 28, 1949.

The new Department of the Navy included the Navy and Marine Corps. "In general, the United States Navy, within the Navy Department of the Navy, shall include naval combat and services forces and such aviation as may be organic therein. It shall be organized, trained, and equipped primarily for prompt and sustained combat incident to operations at sea. It shall be responsible for the preparation of naval forces necessary for the effective prosecution of war except as otherwise assigned, and, in accordance with the integrated joint mobilization plans, for the peacetime components of the Navy to meet the needs of war. The Navy shall develop aircraft, weapons, tactics, technique, organization and equipment of naval combat and service elements; matters of joint concern as to these functions shall be coordinated between the Army, Air Force and the Navy."<sup>3</sup>

"The United States Air Force is hereby established under the Department of the Air Force. The Army Air Forces, the Air Corps, United States Army, and the General Headquarters Air Force

(Air Force Combat Command), shall be transferred to the United States Air Force. In general, the United States Air Force shall include aviation forces both combat and service not otherwise assigned. It shall be organized, trained, and equipped primarily for prompt and sustained offensive and defensive air operations. The Air Force shall be responsible for the preparation of the air forces necessary for the effective prosecution of war except as otherwise assigned and, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components of the Air Force to meet the needs of war."<sup>4</sup>

"There shall be a Secretary of Defense, who shall be appointed from civilian life by the President, by and with the advice and consent of the Senate: PROVIDED, That a person who has within ten years been on active duty as a commissioned officer in a Regular component of the armed forces shall not be eligible for appointment as Secretary of Defense. The Secretary of Defense shall be the principal assistant



to the President in all matters relating to national security. ...”<sup>5</sup>

“a. There is hereby established within the National Military Establishment the Joint Chiefs of Staff, which shall consist of the Chief of Staff, United States Army; Chief of Naval Operations; Chief of Staff, United States Air Force; and, Chief of Staff to the Commander in Chief, if there be one. The Joint Chiefs of Staff are subject to the direction of the President and the Secretary of Defense, as outlined in NSA ’47.”<sup>6</sup>

The system of the Joint Chiefs of Staff, within NSA ’47, was supposed to create a command system by which service chiefs would represent their branches in a command structure answerable to the Secretary of Defense.

However... “the Chairman of the Joint Chiefs did not have the authority to promote or demote members of the Joint Staff who, on completion of their short tours, returned to their parent services. These factors tended to perpetuate individual parochialism in the Joint Chiefs, preventing from functioning as a military executive in the manner of a general staff.”<sup>7</sup>

A decidedly strong condemnation by

Dr. Ian Horwood here on what should be considered a vital cog in the process of advising the Commander in Chief (the President) and the Secretary of Defense on matters vital to the national security. An analysis that would bear out the continued turf battles over Roles and Missions. This was particularly true between the Navy and the Air Force. The first Secretary of Defense, James V. Forrestal, urged a revision of Executive Order 9877 covering the functions of the Armed Forces. This resulted in Executive Order 9950:

“By virtue of the authority vested in me by the Constitution and laws of the United States, as President of the United States and Commander in Chief of the Armed Forces of the United States, it is ordered that Executive Order No. 9877 of July 26, 1947, prescribing the assignment of primary functions and responsibilities to the three armed forces, be, and it is hereby revoked.” Harry S. Truman.”<sup>8</sup>

Next month, Army Aviation’s place in America’s revamped military structure.

#### ENDNOTES:

1 – See page 4, “Organization for National Security Proposed by War

Department McNarney Plan, 25 April, 1944,” The Department of Defense, 1944-1978, Office of the Secretary of Defense, Historical Office.

2 – See pages 41 and 42, I. “The National Security Act of 1947,” The Department of Defense, 1944-1978.

3 – See page 42, The Department of Defense, 1944-1978.

4 – See pages 44 and 45, The Department of Defense, 1944-1978.

5 – See pages 40 and 41, The Department of Defense, 1944-1978, for complete description of the Secretary of Defense.

6 – See pages 45 and 46, The Department of Defense, 1944-1978, for a roster of the tasks assigned to the Joint Chiefs of Staff.

7 – See pages 11 and 12, Chapter 1, “The Doctrinal Background,” Inter-Service Rivalry and Airpower in the Vietnam War, by Dr. Ian Horwood.

8 – See page 169, Chapter 7, “Key West Agreement, 21 April, 1948,” The United States Air Force: Basic Documents on Roles and Missions, by Richard I. Wolf.

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

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# A Banner Year for Wreaths Across America and the AAAA Scholarship Foundation

By MG Jessica Garfola Wright, U.S. Army Retired

A heartfelt THANK YOU to everyone who sponsored a wreath in support of AAAA Scholarship Foundation Inc.'s Campaign for Wreaths Across America. We were a HUGE SUCCESS because of YOU.

BG (Ret.) Mike Flowers, AAAASF Board of Governors president said, "MG (Ret.) Jessica Garfola Wright spearheaded our campaign for Wreaths Across America this year with outstanding results!" Our goal this year was to sponsor at least 300 wreaths. We exceeded that goal by 78%, with a total of 534 wreaths purchased contributing \$2,670 to the Scholarship Fund. In addition, an anonymous donor generously

donated \$2,000 directly to the Scholarship Foundation.

MG (Ret.) Tim Crosby, the current president of the Army Aviation Association of America (AAAA) stated, "Wreaths Across America partnered with our SFI exceeded their goals as well as our expectations. This all-volunteer team recognizes our fallen comrades by placing wreaths on the graves at our cemeteries. Your efforts yielded



WREATHS ACROSS AMERICA GRAPHIC

a scholarship donation of over \$2,600 – what a huge accomplishment for our Association and more importantly to remember our Fallen. I would like to personally say thank you to all involved for their initiative, dedication, and commitment to make this happen."

The Wreaths Across America (WAA) Program began in 1992 and the AAAA Scholarship Foundation began its partnership with WAA in 2019. The goal of WAA is to **Remember** the fallen, **Honor** those who serve, and their families, and **Teach** future generations about the value and cost of freedom. Over 2,000 National Cemeteries around the world simultaneously held ceremonies and wreath placements at noon on December 18, 2021. The impact was significant because of your participation.

We have already begun our 2022 Campaign. Please go to <https://wreath-sacrossamerica.org/pages/160022> to be a sponsor. You may choose to send your wreath to Arlington National Cemetery, or you may select from one of the more than 2,000 cemeteries in partnership with WAA. For each sponsored wreath, WAA contributes \$5 to the AAAA Scholarship Foundation which goes directly to fund scholarships.

Becoming a sponsor ensures we are remembering the past and in turn supporting the future through our AAAA Scholarship Foundation. Thank you!

*MG (Ret.) Jessica Garfola Wright is a subcommittee member of the AAAA Scholarship Foundation, Inc. Fundraising Committee.*

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## AAAA Chapter Affairs By LTC (Ret.) Jan Drabczuk

*I appreciate the support from MAJ Jesse Belk, the Volunteer Chapter President for authoring and sharing this information to our membership.*

# The Volunteer Chapter



The AAAA Volunteer Chapter is primarily composed of current and former members of the TN ARNG.



CHAPTER COURTESY PHOTO

2021 Volunteer Chapter Annual Fallen Aviator Car Show Staff

Members are from the 1-230th Assault Helicopter Battalion (AHB) formerly known as 1-230th Air Cavalry Squadron and the 4th Squadron 278th Armored Cavalry Regiment. The chapter also consists of current and former members of 1-107th Airfield Operations Battalion (AOB). The 1-230th and its subordinate units are split across the state of TN at 3 supporting Army Aviation Support Facilities. AASF # 1 in Nashville, AASF #2 in Louisville, and AASF # 3 in Jackson.

### Unit Locations

AASF #1 is in Nashville, TN at the international airport (BNA). The facility which hosts the BN HQ, is commanded by LTC Jeff Baird who is also the AASF Commander. He is supported by CSM Gary Bailey. The state Aviation Office is also co-located in Nashville with COL Jay Deason, as the State Aviation Officer, and LTC Pat Wade as his deputy. AASF # 1 supports A Co 1-230th AHB, Co B (-) 2-151st S&S, and 2-641st AV with the C-12 OSA, as well as portions of the HHC, FSC, and aviation maintenance companies assigned to 1-230th AHB.

AASF #2 is in Louisville, TN at the McGhee Tyson airport, also known as the Knoxville airport (TYS). The Facility Commander is CPT Hulon Holmes,

and the Operations officer is CPT Phillip Webster. The facility primarily supports the MEDEVAC companies assigned to the TNARNG, and always is stand by ready to support missions in the Great Smoky Mountains National Park, where they conduct about 2 rescues per month during the Spring, Summer, and Fall months.

AASF # 3 is in Jackson, TN at the McKellar-Sipes regional airport (MKL). The Facility Commander is LTC Mark Jordan, who is also the Commander of 1-107th Airfield Operations Battalion. The Facility Operations officer is CPT Cody Baker. This facility supports B Co 1-230th and several detachments assigned to 1-230th AHB.

1-107th AOB is in Tullahoma, TN with the 30th Troop Command who is the peacetime Brigade headquarters for all the TNARNG aviation units. They routinely set up air traffic control at the Tullahoma airport (THA), as well as several other civilian airfields in the middle TN region.

### Annual Fallen Aviator Car Show

The Volunteer Chapter's premier fundraising event is the Annual Fallen Aviator Car Show. This event takes place the last Saturday in September. The past several years this event has attracted thousands

of guests, with a silent auction, live music, food trucks, blood drive, helicopter rides by a civilian tour flight company, and mini airshow from several local exhibition pilots and their generally piston powered aircraft. This event was the key fundraiser for topping off the last of the 5 scholarships in 2018 at the \$1000.00 perpetual level, and the chapter plans to start moving each of the 5 scholarships to the \$2000.00 level based on future earnings.

### Chapter Activities

The chapter continues to host a membership drive during 1-230th AHBs Annual training period with a cookout and raffle. This event normally draws around 300 to 400 of the battalions 600 Soldiers. It is a highly anticipated event each year.

The chapter has an active awards program, awarding approximately 5 Order of Saint Michael awards each year, and the occasional Order of Our Lady of Loreto awards.

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](mailto:jan.drabczuk@quad-a.org)





## Order of St. Michael Inductees

### Aviation Center Chapter



CHAPTER PHOTO BY LINDA GENTZEL

**Ms. Shay Collins**, Sikorsky Customer Awards Manager, is inducted as a Knight of the Honorable Order of St. Michael, by chapter Sr. VP, COL (Ret.) Marcus Gengler (right) and Treasurer, CW3 (Ret.) Michael Monaghan, during a Dec. 1, 2021 ceremony at Ft. Rucker, AL. Collins was recognized for her 30 years of service to the Fort Rucker community supporting chains of command, Soldier events and representing Sikorsky in all sponsored endeavors. The Aviation Community recognizes her as managing a "World Class" awards program for customers flying Sikorsky helicopters.

### North Star Chapter



CHAPTER PHOTOS BY LTC (R) JERRAN DEBER

**CW5 Paul T. Adamson** is inducted into the Silver Honorable Order of St. Michael by LTC (Ret.) Michael R. Barker (left), former commander of B/2-135 GSAB, during an Oct. 1, 2021 ceremony at the American

Legion Post 1776, Apple Valley, MN. Adamson was recognized for 36 years of service to Army Aviation flying AH-1, AH-64, CH-47, OH-58, UH-1 and UH-60 aircraft with an accumulated total of over 5,500 hours, including 1,700 combat flight hours.



CHAPTER PHOTO BY MAJ BRANDON GERTMAN

**CW5 David M. O'Brien** is inducted into the Silver Honorable Order of St. Michael by Chapter President and 34th Expeditionary Combat Aviation Brigade Commander, COL Gregory D. Fix, during a Nov. 29, 2021 ceremony at the Army Aviation Support Facility (AASF) #1, Saint Paul, MN. O'Brien was recognized for his 38 years of Army Aviation service, including more than 4,000 flight hours and his service as the 34th ECAB TACOPS, AMSO and Standardization Pilot especially his contributions to the Echelons Above Brigade Airspace Course.



CHAPTER PHOTO BY JERRAN TROWER

**CW4 Stephen S. Schiffl** is inducted into the Silver Honorable Order of St. Michael by Chapter President and 34th ECAB


Commander, COL Gregory D. Fix, during an Aug. 7, 2021 ceremony at VFW Post 10406 in Cochrane, WI. Schiffl was recognized for 34 years of service with more than 1,800 total flight hours and selfless service in the medical evacuation community (C/2-211 GSAB) utilizing all his skills in signal, unmanned aircraft systems and as a UH-60A/L/M pilot.

### Tennessee Valley Chapter



CHAPTER PHOTO BY SHERRY L. DORNER

**COL Kevin S. Chaney**, outgoing Project Manager, Aircraft Survivability Equipment, is inducted into the Silver Honorable Order of St. Michael by chapter president, Mr. Gary Nenninger (right) and Mr. Mark Kitz, Program Executive Officer Intelligence, Electronic Warfare, and Sensors during a Nov. 30, 2021 change of charter ceremony at the Bob Jones Auditorium, Redstone Arsenal, AL. Chaney was recognized for his work during his previous tenure as Product Manager, Infrared Countermeasures and then PM ASE. Chaney next assumes the charter for the Future Attack Reconnaissance Aircraft project office at Redstone Arsenal.



*Want to change  
your AAAA  
Chapter Affiliation?  
No Problem!*

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CHAPTER COURTESY PHOTO

## Chapter News

### Central Florida Chapter Holiday Fundraiser

Members of the AAAA Central FL Chapter supported the Annual Camaraderie Foundation Holiday Party that was held at Jan and Gail Drabczuk's home on 5 Dec 2021. The benefit raised \$32K to support military members and their families. Pictured (l to r) are: Mark Russell, Jan Drabczuk, Mike Motko, Dan Gallagher, Kevin Vizzarri, Steve Beltson, Mike Garretson, John Ferrell, and Jim Blake.



## AAAA Membership Update

By CW4 Becki Chambers

# The Membership Corner

There's a misconception that membership in AAAA is limited to only Army pilots and crew chiefs.

That could not be further from the truth. Membership in AAAA is open to ANYONE who has an interest in Army Aviation. One such member is SFC Cody Bernard.

Cody was born and raised in Los Angeles, California. Cody's father and his side of the family had both an Army and Air Force background dating all the way back to WWII. His father finished his service after Cody was born so he was not really an "Army brat" that moved around or grew up on bases, but the foundations were there. Cody always had an interest in giving back to a bigger picture whether that be his community or country. He was torn between law enforcement (LAPD) and the Army. The attacks on 9/11 made the choice that much clearer for him to join the Army. He was in 9th grade when the towers were hit.

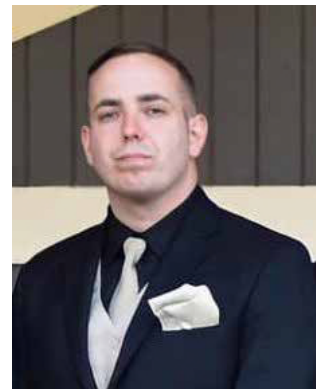
Cody has been serving a little over 15 years and has been privileged to remain under the Special Operations umbrella for the entirety of his career. He has 12 combat tours, with numerous joint training events and TDYs in that span. Cody has held positions from Ammunition Specialist, Ammunition Sergeant, Section Chief, Task Force Ammunition NCOIC, and in his current position serves as the Regimental Ammunition NCOIC for the 160th Special Operations Aviation Regiment (ABN). He is also currently the primary Equal Opportunity Leader for his company.

I saw a post on LinkedIn celebrating SFC Bernard receiving the Order

of Samuel Sharpe. The Order of Samuel Sharpe recognizes members of the Ordnance Corp who have demonstrated integrity, moral character, and professional competence over a sustained period, similar to the Order of Saint Michael for Aviation. When Cody was told that he was being recommended for it by his OIC, he was humbled knowing he was being inducted into a list of people that he looked up to. Prior to receiving the award, Cody never thought anyone would take the time to put in the hard work to start the process.

Cody is always looking for ways to give back to his formation. Once he graduated the SHARP course and earned his certification as a victim advocate, he was able to assist Soldiers and Family Members who fell victims to sexual assault and sexual harassment. At the end of the day, the goal is to take care of people. Cody treats his additional duties the same way he does his primary MOS and always gives 100%. The duty was a double edged sword though. Cody says that while it's rewarding helping someone, understanding why he is helping them in the first place can weigh on his emotions. "Each case is different, and everybody's trauma is unique, so it can sometimes be hard because you always feel like you could have done more for the person. I learned a lot about myself in my time of being a victim advocate."

Cody and his wife Amanda have been married for 13 years. They are dog parents to Khaleesi, a 5-year-old beagle. He



SFC Cody Bernard

BERNARD PERSONAL PHOTO

would like to thank Carlos Rodriguez, Christopher Ponce Deleon, and Ken Baldon. He said, "It takes a village, but these 3 definitely helped me become the Soldier/man I am today."

When asked why he feels it's important to belong to a professional organization like AAAA he said, "Similar to having additional duties, I believe you should always try and give back when possible. Whether it's helping set up an event for a couple of hours on a day off or donating money to a local chapter. Until recently I was not aware I could join being a non-Aviator. I am also currently a member of the Night Stalker Association and Ordnance Corp Association."

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

CW4 Becki Chambers  
AAAA Vice President for Membership

### New AAAA Life Members

*Air Assault Chapter*  
MAJ David M. Shanahan  
*Aviation Center Chapter*  
CW2 Nicholas A. Davis  
CW3 John H. Bentley, Ret.  
*Cedar Rapids Chapter*  
CW4 Shane M. Lutgen  
*Central Florida Chapter*  
MAJ Pat Unger

*Colonial Virginia Chapter*  
CW5 Anthony Rinderer, Ret.  
*Follow Me Chapter*  
CPT Robert Siebenmorgan  
*Idaho Snake River Chapter*  
1LT Paul Mahlow, Ret.  
*Keystone Chapter*  
CW3 Chris Krause  
*North Country Chapter*  
CW3 Lance M. Leduc  
*North Star Chapter*  
CW4 Aaron Caswell  
CW3 Pat Swenson

*Rio Grande Chapter*  
CW5 Robert A. McNeal, Ret.  
*Tarheel Chapter*  
CPL Stephen Denty  
*Voodoo Chapter*  
LTC Kevin Middleton  
*Yellowhammer Chapter*  
CW4 Joshua Roberts

### New AAAA Members

*Air Assault Chapter*  
SFC Grant Marzolf

PFC Koben R. Melton  
MAJ David M. Shanahan  
*Aloha Chapter*  
SFC Michael Allar  
CW2 Christopher Burgess  
*Arizona Chapter*  
PV2 Matthew R. Ballard  
Jeffrey Bowman  
BG Lonnie Branum  
Raymond Gene Fritz  
Patrick McGarry  
PFC Alexis S. Nischwitz  
SSG Ryan Thompson

Bruce Waterman  
*Aviation Center Chapter*  
W01 Robert B. Adams  
MAJ Brian Alliston  
W01 Jasper R. Andoy  
2LT Alyssa A. Aponte  
Patrick Azan  
W01 Jacob Barton  
CW3 Mark Beck  
2LT Juan Carlos. Belmonte  
CPT Anthony R. Bonilla  
W01 Christian A. Boswell  
W01 Logan N. Britton

2LT Nam N. Cao  
W01 Jeremiah G. Clift  
W01 Dean A. Cole  
CW2 Bryan Crane  
W01 Adam M. Crews  
W01 George L. Cuevas  
W01 Mitchell B. Daniels  
W01 Kyle A. Davidson  
CW2 Nicholas A. Davis  
W01 Caleb L. DeNoon  
W01 Christopher Docchio  
W01 Sean C. Doval  
CW2 Garrett C. Dunlap





## New AAAA Members

*Continued*

2LT Rachel M. Eby  
 WO1 David L. Faughn  
 WO1 Brandon W. Fernald  
 WO1 Sarah A. Feuerborn  
 CW2 Joey R. Fontanez  
 1LT John H. Fox  
 WO1 Michael L. Franklin  
 PFC Drake Allenlee Fugate  
 2LT Amanda G. Garcia  
 CPT R. John P. Gingerich  
 Eugene Goolsby  
 2LT Garrett M. Graham  
 WO1 James M. Graydon  
 WO1 Albert Hood  
 WO1 Jarred T. Hoppe  
 WO1 Daniel T. Houston  
 WO1 Josh Johnson  
 Scotty Johnson  
 WO1 Steele A. Johnson  
 2LT Tom J. Kazmierczak  
 1LT Richard E. Kearns  
 WO1 Theodore D. Keniston  
 WO1 Chan Pyo Kim  
 CW3 Nathan J. Koch  
 2LT Oliver T. Laflamme  
 CW2 Daniel P. Leiner  
 WO1 Kyle E. Loveless  
 2LT Emily Maier-Costanza  
 2LT Ellie M. Manderfeld  
 WO1 Eric V. Manuylo  
 2LT Brian J. Matus  
 2LT Mat L. McClintock  
 WO1 Bryan S. McCoy  
 CW2 Kyle D. McKenna  
 WO1 Hailey E. McKeely  
 2LT Siobhan J. Murphy  
 2LT Zachary T. Nodden  
 WO1 Bradley A. Obenland  
 Patrick C. O'Brien  
 WO1 Roger A. Olivea  
 2LT Charles W. OTuel  
 CW2 Benjamin T. Paddock  
 WO1 Joseph C. Payne  
 WO1 Christopher J. Perry  
 WO1 Scott N. Perry  
 CW3 Brandon Pinero  
 2LT Charnelle C. Pinson  
 WO1 Bradley A. Polotto  
 1LT Erik J. Rajunas  
 2LT Bryce W. Richey  
 2LT Camrion W. Roth  
 WO1 Eric A. Saalman  
 WO1 Bryan A. Salazar  
 WO1 Thomas B. Simmons  
 WO1 Wyatt L. Smith  
 WO1 Donald L. St. Martin  
 WO1 Ian J. Theibert  
 WO1 Lucas E. Thompson  
 WO1 David A. Vendetti  
 WO1 Skyler T.K. Vickery  
 WO1 Clayton R. Wells  
 PFC Logan Wert  
 WO1 Dillon A. Wood  
 WO1 Eric M. Wright  
 WO1 Christopher Yarworth  
*Badger Chapter*  
 PFC Sean W. Donaghy  
 1LT Samuel Eide  
 Conor Seal  
*Battle Born Chapter*  
 PFC Aaron M. Munguia  
 SSG Race Shelton  
*Big Sky Chapter*  
 MAJ Robert Allinson  
 SPC Carrie L. Schwandt  
 Peter Yegen

*Black Knights Chapter*  
 CDT Kyle Swindler  
 CDT Artem Zhelyabin  
*Bluegrass Chapter*  
 PV2 Jacob M. Grummer  
 Seth Meadows  
 SPC Sebastian Melgar  
 Elise Weiler  
*Cedar Rapids Chapter*  
 CW4 Shane M. Lutgen  
*Central Florida Chapter*  
 Carol Golly  
 CDR Nick Hackard, Ret.  
 Arash Jahangir  
 SFC Kenneth Johnson  
 Joel Jolley  
 Debbie Kravchuk  
 Deborah Lavin  
 PFC Kyle R. Murphy  
 PFC Brittney C. Pressler  
 Brett Ulander  
 MAJ Pat Unger  
*Colonial Virginia Chapter*  
 CW3 Alberto Borrero  
 Thomas Bottini  
 PFC Owen H. Doran  
 CPT Stephanie Eldridge  
 CW5 Anthony Rinderer, Ret.  
 Troy Robinson  
 Allen Walker  
 PVT Adam Young  
*Connecticut Chapter*  
 Roger Briggs  
 Ben W. Levellyn  
 Jackie Lovett  
 Arthur Maggiola  
 SPC Michael P. Nizzardo Jr  
 Nicole Pena  
 Leon M. Silva  
 SPC Ethan Michael Smith  
 Jake Stearns  
 Lincoln Thompson  
 Bob Valenti  
 Vic Venettozzi  
 CW3 Raymond Wagner  
 PFC Liam Ignatius Weir  
 John Wilbur  
*Corpus Christi Chapter*  
 Arturo Barrera  
 CPO Andy Conner, Ret.  
 A1C Nathan Thomas Darst  
 Joe Dominguez  
 John LaRue  
 Travis W. Lindley  
 Israel Ortega  
 Wesley Thomas  
*Cowboy Chapter*  
 CW2 Lauren Gurney  
*Delaware Valley Chapter*  
 Kate Anthony  
 Zach Baron  
 John J. Caldwell  
 Jody Cello  
 Jim H. Curren  
 Andrew Daris  
 PV2 Jared M. Devlin  
 Helen Donaldson  
 Kenny Eland  
 Lee Falgoust  
 Bryan Grasso  
 Steven R. Gudknecht  
 Edward A. Irizarry  
 Stephen Kuhns  
 Robert Leblanc  
 Jean M. Malloy  
 Daniel Manoukian  
 George McDowell  
 Maxwell McDowell  
 John P. McMahon  
 Rick Nace

Rodney Snyder  
 Charlie D. Tier  
 Frank P. Travaglini  
*Desert Oasis Chapter*  
 SFC Joshua Ramey  
*Empire Chapter*  
 SGT Caleb Bailey  
 SGT Edward Belanger  
 SPC Alexis Carson  
 WO1 Michael Cummings  
 SFC Kevin Czachorowski  
 SGT Tyler De Gone  
 CW4 Brian Dengler  
 1SG Hal Fellows, Ret.  
 CW2 Justin Fosnaugh  
 Charles Jones  
 Matt Loomis  
 Paige Lyndaker  
 SSG Grant Lyons  
 PFC Jillian T. Menzie  
 Jeffrey Pieper  
 SGT Brian Ruscio  
 SGT Samuel Sacco  
 SFC Steven Salter  
 Michael Sick  
 SSG Timothy David Strong  
 WO1 Brian Tenace  
 SFC Todd Toland  
 SPC Larissa VanDetta  
 CW2 Fredric Wilder  
*Flint Hills Chapter*  
 PV2 Julianna L. Hare  
 CPT Malachi Jamison  
*Follow Me Chapter*  
 CPT Robert Siebenmorgan  
*Gold Standard Chapter*  
 PFC Jose Pena  
 SSG Shane Polidoro  
*Great Lakes Chapter*  
 PVT Drew R. Malotke  
*Greater Atlanta Chapter*  
 Kaci Barker  
 CW5 Christopher McGorrian  
 PFC Jacob William Neece  
 PV2 Anthony Rodriguez  
 Adam Taylor  
*Green Mountain Boys Chapter*  
 CW4 John Labbe  
 CW4 Philip Small  
*High Desert Chapter*  
 SFC James Berry  
 WO1 Brandon Elliott  
*Idaho Snake River Chapter*  
 1LT Paul Mahlow, Ret.  
*Iron Mike Chapter*  
 COL John M. Morgan, Ret.  
*Jack H. Dibrell/Alamo Chapter*  
 CW4 Jeff Myers  
 COL Robert Worley, Ret.  
*Jimmy Doolittle Chapter*  
 PVT Ryan J. Drayton  
 PFC Joshua Jerrell  
 PVT Sydney A. McElhany  
*Keystone Chapter*  
 Michelle Collier  
 John Fraser  
 Rob Gordon  
 CW3 Chris Krause  
 SSG Logan Williams  
*Land of Lincoln Chapter*  
 PV2 Hector Raul Castro  
 1LT David L. Coppin  
*Lindbergh Chapter*  
 Eli Ratcliff  
*Lonestar Chapter*  
 PFC Joshua Patrick Sant  
*MacArthur Chapter*  
 SPC Cisco E. Alers  
 Leo Fridley  
 Robert Hudson

*Magnolia Chapter*  
 PFC Ronald P. Jurney  
 LTC Raleigh Murphy  
 COL Chester Shermer  
*Minuteman Chapter*  
 Jay O'Connell  
 Michele Palmer  
 Desmond Walsh  
*Mohawk Chapter*  
 PV2 Wenhua Zhao  
*Morning Calm Chapter*  
 CPT Basile Glodji  
 SFC Atsuyoshi Shiroma  
*Mount Rainier Chapter*  
 Chase Buckingham  
 LTC Benjamin Gering  
 John Hammond  
 CW3 Travis Heckelsberg  
 1LT Jack Johnston, Ret.  
 WO1 Tristian Knutson  
 LTC Steven Lodwig  
 PVT Dimitri A. Ognibene  
 Nozomu Saito  
 WO1 Tamieka Vassell  
 John Womack  
 Chiharu Yuguchi  
*Narragansett Bay Chapter*  
 PFC Francisco Santos-Rivera  
*North Texas Chapter*  
 PV2 Marisela S. Chavez  
 Thomas Chiang  
 WO1 Charles W. Cox  
 Jennifer Johnson  
 SPC Mackenzie J. Santschi  
*Old Tucson Chapter*  
 COL Thomas Davis  
*Oregon Trail Chapter*  
 SPC Ryan A. Cooper  
 SPC Cameron S. Dixon  
 SPC Brandon M. Smith  
 SPC Trevor J. Zanella  
*Phantom Corps Chapter*  
 David Coody  
 SPC Dylan Scott Isabell  
*Pikes Peak Chapter*  
 WO1 Jeff Bailey  
 Capt. William DuBose  
 CW3 Tim Hall  
 MAJ Timothy Light  
 1LT Christopher Towne  
 MAJ Nicholas Tucker  
*Ragin' Cajun Chapter*  
 PFC Hugo Garcia-Herrera  
*Rio Grande Chapter*  
 CW5 Robert McNeal, Ret.  
 SGT Victoria Parker  
 PFC Luis Armando Rey, III  
*Savannah Chapter*  
 MAJ Beau Carroll  
 MAJ Joel Castro  
 CAPT Gary Knight, Ret.  
 MAJ Robert H. Lee  
*Southern California Chapter*  
 PV2 Nathan C. Dorsey  
 Dylan Marquess  
 PV2 Dylan M. Thompson  
 Joshua Woods  
 WO1 Conrad F. Zimmer  
*Tarheel Chapter*  
 Sarah Clark  
 CPL Stephen Denty  
 CW3 Joseph Elmore  
 CW2 David Samuels  
*Tennessee Valley Chapter*  
 Joshua Bass  
 Joanne Blatchley  
 Jacob Bussey  
 Nastacia Chapman  
 Sheila Cummings  
 Christi Dolbeer

Susan Dunbar  
 Danielle Dutcher  
 Jennifer Evans  
 Miss Allison Freedman  
 Jeffery Gregory  
 Chris Hodges  
 SGM Brooke Houppert  
 Tim Kinch  
 Tom LaBrenz  
 Roman Leone  
 Rich Mintz  
 Meghan Murphy-Ruddick  
 Saj Niaz  
 Joshua Nichols  
 Aaron Oskian  
 Tom Ray  
 Christopher Rossi  
 Austin Simmons  
 Jason A. Stacy  
 Jarrod Weeks  
 LCpl Michael Williams  
*Thunderbird Chapter*  
 Ron Hartleroad  
*Utah Chapter*  
 Scott Barber  
 CW2 Frederick Bittner  
 Blaine Edwards  
 PFC Matthew D. McDougal  
 PVT Ammon Milton  
 LTC Gordon Pedersen  
*Volunteer Chapter*  
 SGT Michael Robinson, Ret.  
*Voodoo Chapter*  
 PFC Nicholas Michael Davis  
 PV2 William Jakobe Foster  
 LTC Kevin Middleton  
*Washington-Potomac Chapter*  
 Paul Beard  
 SPC Jorge LBrown-Ojeda  
 CW3 Melvin Canon, Ret.  
 Muge Cody  
 CW5 Patrick Curran  
 Jim Davis  
 Mark Fagin  
 Gerard Fasano  
 Katie Garagozzo  
 Joe Gibbs  
 Nathan Iseminger  
 Grant Kim  
 Cyriel Kronenburg  
 Joseph Lea  
 Rudy Miller  
 Jimmy Mott  
 Mitchell Plonski  
 Christian Ramsey  
 Mark Shepard  
 CPT Alan Vanier  
 Michael Weigand  
 Nicole Wheeler  
 Derek M. Woods  
 Shane Woodson  
 Zane Woodson  
*Wright Brothers Chapter*  
 PVT Jacob R. Sauer

*Yellowhammer Chapter*  
 CW4 Joshua Roberts  
*Zia Chapter*  
 1LT Maurice Geldert  
 PV2 Daniel D. Stokely  
*No Chapter Affiliation*  
 Chris Benson  
 Elline Binner  
 David Bosworth  
 Jen Colton  
 SSG Richard Craven  
 Ed Dixon  
 CW3 Steven Farner, Ret.  
 Taylor Flores  
 CW2 Andrew Jerry Garcia  
 William Gorlach  
 Shane Hastings  
 Marcus Heap  
 Miss Carla Heberle Rivas  
 Taylor Holleman  
 Church Hutton  
 David Ingram  
 Daniela Jones  
 Kara Ktamer  
 Mark Long  
 Corrie Machesky  
 John H. Mahan  
 Valerie Mahan  
 LTC Daniel McAuliffe  
 Kevin Mikes  
 Patrick Moss  
 Caitlyn Oliver  
 Edward Popek  
 1LT Brian Ramsey, Ret.  
 MAJ Juan A. Rodriguez  
 LTC David Roman  
 Will Roper  
 Dev Saini  
 Michael Saxton  
 Christopher Saylor  
 MAJ Theodore Schulze, Ret.  
 Anthony Scott  
 Marvin Smith  
 Ryan Spilchen  
 LTC Nicholas A. Steele  
 Mark Urban  
 Jill Vacek  
 CW4 Joseph A. Weekly  
 Thomas Weidley  
 Lane Wiggers  
*North Country Chapter*  
 SPC Ashton Ledee  
 CW3 Lance M. Leduc  
 SFC Jonathan Stormm  
*North Star Chapter*  
 CW4 Aaron Caswell  
 2LT John Christfield  
 Jim Funk  
 2LT Samuel Kneen  
 LTC Kyle Liudahl  
 SFC Todd Lofquist  
 Joseph Mishler  
 CW2 Jonah Parrott  
 MAJ Amanda Waldusky

## UPCOMING EVENTS

### MARCH 2022

**7-10** - HAI Heli-Expo 2022, Dallas TX  
**17-19** - 33rd Annual International Women in Aviation Conference, Nashville TN

### APRIL 2022

**3-5** - AAAA Army Aviation Mission Solutions Summit, Nashville, TN  
**12** - Aviation Branch 37th Anniversary  
**23** - U.S. Army Reserve 114th Anniversary



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## AAAA Family Forum By Judy Konitzer

# Army Aviation Hall of Fame “Oscar Night” Celebrates Spouses, Too

Due to COVID, the annual Army Aviation Hall of Fame induction ceremonies for 2020 and 2021 were postponed.

However, we were able to witness inducting six new members at the 2021 Joseph P. Cribbins Training, Equipping and Sustainment Symposium in Huntsville this past November, and it was indeed a very special “Oscar Night” for Army Aviation. The honorees were truly inspiring, while at the same time very humble, but equally inspiring for me was being able to spend time with some of their wives and with one who was so gracious to share her thoughts about the experience with me and our readers.

Tina Englen explained that her parents, mother-in-law, four children (31, 28, 23, and 21), and new son-in-law were able to share in an “absolutely positive experience for their family. In a very odd way, it made us feel proud of what we as a family had accomplished.” She also shared that “During my husband’s military career, and as a family member you don’t really stop to think about all that was sacrificed. You just do what needs to be done.” For her, seeing it all come together was very special, and it started many conversations while sharing memories. There were some that she had forgotten and some that she never even knew about.

CW5 (Ret.) Englen and Tina have been married for 34 years. He retired two years ago having served in the military for all those years. Her role as the “continuous parenting figure during deployments was to make sure that whatever needed to be taken care of here was taken care of for him to do what he needed to do and return. When he was home, sometimes his long work hours made it hard to take care of



*CW5 Ret. Englen and his entire family celebrated his induction into the Army Aviation Hall of fame.*

some things, and so I tried very hard to lessen the load.” She remembered a phone conversation with him one time asking “Is all, okay? And her saying, of course!” At that time, she was sitting in an inch of water because of a broken washing machine. I had to laugh when she told me this as I have been there and checked that block with a similar scenario, and I know that many military spouses can readily identify with this or something comparable and be able to laugh about it years later too.

I felt her pain, which I feel so many of us too have experienced “that it is very important that no matter how upset the kids were when Dad was not there at an event etc.... never to let them see him as the “bad guy.” She “always made Dad out to be “The Soldier,” and we (were) and still are proud of him always!”

Tina’s advice for new spouses was to value each moment. “The deployments with just me and the kids made memories that if he had been home, may not have happened. One was changing a starter on my 16-year-old son’s truck which was priceless!”

She also shared words of encouragement with this wise old saying, “This too

shall pass and in the military nothing is forever.” Tina felt that it was important to “Give yourself smaller milestones and embrace the accomplishment of reaching each of those milestones like breaking down a year-long deployment or a two-year station for a school or training and not getting so overwhelmed and wrapped around little details that don’t matter was what was really important.”

Lastly, Tina felt that as the head of the household during deployments, schools, or long duty “you are the one who is most important, so you need to take care of yourself, and you need to take time together with your family. It also helps to find a support group like an FRG, church, or your neighbors.”

We are genuinely proud of our Soldiers who have been awarded their induction into the Army Aviation Hall of Fame, but we are equally proud of their spouses who have also earned their spot on this stage as well.

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



# AAAA Awards



## Order of St. Michael Inductees

### Silver

*Air Assault Chapter*  
Angel Gonzalez  
*Big Sky Chapter*  
BG James C. Wilkins  
*Cowboy Chapter*  
CW5 Brandon Erdmann  
CW5 Mike Sall, Ret.  
*Lindbergh Chapter*  
LTC William D. Wolfinger, Ret.  
*Savannah Chapter*  
CW5 Brandon Helms  
CW5 Allen Raye

### Bronze

*Air Assault Chapter*  
LTC Bob Hesselbein, Ret.  
SSG Michael Lee Pettit

*Arizona Chapter*  
Anthony Picha  
*Aviation Center Chapter*  
Robert E. Jones  
SFC John B. Barnebey  
Mark E. Beck  
Johnnie Forehand  
SSG Fred Gerald Hoagland III  
CW3 Juan C. Hurtado  
SSG Christopher Maddox  
1SG Joseph D. Reed  
SGM Angelo Rickert  
CW3 Kenneth M. Rudo  
*Colonial Virginia Chapter*  
MSG Christopher J. Lindsay  
CW5 Ryan M. Richardson  
*Mount Rainier Chapter*  
CW4 Joshua Bolden  
*Savannah Chapter*  
MAJ Joel Castro  
CW3 Isiah D. Coleman  
CPT Neal E. Covell  
CW3 James K. Kelley  
CW3 Raymond A. Schneider  
CW3 Benjamin H. Stoddart  
*ShowMe Chapter*  
CSM David C. Hall  
*Washington-Potomac Chapter*  
CW5 John Karmire, III  
CW5 William D. Kilgore Jr.  
CW5 Brian P. Robertson  
CPT Richard E. Schuessler

## Knight Recipients



*Morning Calm Chapter*  
SFC George D. Patterson

## Our Lady of Loreto Recipients



*Air Assault Chapter*  
Natalie Miller  
Gayle Gonzalez  
*Morning Calm Chapter*  
Ivelina Branch  
Stephanie M. Schulcz  
Yolanda M. White  
*Mount Rainier Chapter*  
Melinda McLean  
*North Star Chapter*  
Katherine Amanda Oberg  
Brenda K. Ortmann  
*Tennessee Valley Chapter*  
Holly Sellers

## AAAA Salutes the Following Departed...

LTC Orlie J. Underwood, Ret.  
Deceased 11/2/2021  
Charter member & Life member

MAJ David A. Laverdiere, Ret.  
Deceased 9/16/21  
Life member

WO1 Isaac N. Hubenthal  
Deceased 6/21/21

Mr. Charles W. Aten II  
Deceased 10/25/21

CW4 James R. Oden, Ret.  
Deceased 11/21/2021



## Award Nominations Are Open

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

### AAAA Functional Awards

*Suspense: July 1*

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

*Suspense: August 1*

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

*Suspense: September 1*

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

### AAAA Hall of Fame Inductions

*Suspense: June 1*



## Industry News *Announcements Related to Army Aviation Matters*

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

### Honeywell Tests Next-Generation T55 Engine



U.S. ARMY PHOTO

**Honeywell** Honeywell has reached a significant milestone with the U.S. Army by being the first engine to test (FETT) as part of its Cooperative Research and Development Agreement (CRADA) for the next-generation engine for Chinook helicopters. The CRADA program and testing of the T55-714C engine is planned over a two-year period to validate the benefits and ease of integration of the new engine variant onto the Chinook platform. Testing of the first T55-GA-714C engine was successfully initiated at Honeywell's Phoenix test facilities in November 2021 to verify the design and establish the performance benchmark in preparation for the engine installation on the flight test aircraft.

### U.S. Army Buys 15 Vita Rescue Systems for Evaluation



VITA INCLINATA PHOTO

**VITA INCLINATA** Vita Inclinata (Vita), developer and producer of helicopter and crane load stabilization and precision hardware, announced the U.S. Army recently procured 15 Vita Rescue Systems to be evaluated for operational effectiveness and suitability. The VRS will be delivered to the U.S. Army Aeromedical Research Lab (USAARL), Fort Rucker, AL for additional environmental testing, followed by operational testing. Vita today controls chaotic swinging and spin and adds safety and precision for rotor-wing and fixed-wing aircraft and cranes.

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

**L3Harris Technologies Inc., Rochester, NY**, was awarded a \$45,840,000 firm-fixed-price, cost-plus-fixed-fee, and firm-fixed-price contract for development to integrate the AN/PRC-160 high frequency manpack radio in the MH-47 and MH-60 aircraft; the majority of the work will be performed in Rochester.

**Lockheed Martin Corp. Missiles and Fire Control, Orlando, FL**, was awarded a \$102,389,630 firm-fixed-price contract for production and delivery of hardware components and spares of the Apache Attack Helicopter Modernized Target Acquisition Designation/Pilot Night Vision Sensor System; work locations and funding will be determined with each order, with an estimated completion date of July 31, 2024.

**Sikorsky Aircraft Corp., Stratford, CT**, was awarded an \$8,514,607 firm-fixed-price contract for maintenance and overhaul of gearbox assemblies; work locations and funding will be determined with each order, with an estimated completion date of Sept. 21, 2026.

**The Boeing Co., Mesa, AZ**, was awarded a \$239,590,243 cost-plus-fixed-fee contract for the Apache Improved Turbine Engine Integration Phase II; work will be performed in Mesa, with an estimated completion date of Dec. 31, 2026.

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# AAAA Legislative Report

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

## FY22 NDAA PASSED

Just when you start to lose hope that Santa hasn't lost your address, he shows up at the 11th hour with Christmas joy. In true Congressional fashion with just a couple of weeks to go in 2021, the FY22 National Defense Authorization Act (NDAA) was passed out of Congress on December 15th. Congressional lawmakers boosted DoD's budget request by \$25B and authorized the Pentagon to spend \$740M in FY22.

So, what does this mean? FY22 started on October 1st this past year so we are already 3 months into the fiscal year. The NDAA "authorizes" DoD to spend money on X, Y, and Z, so now that the NDAA is passed, the Pentagon can spend funding on those items that are approved by Congress. In reality, DoD has been spending money on R&D, sustainment, and modernization, but now its solidified how much they can spend on those items once there is an appropriations bill that actually legally distributes the funding to spend. We've been operating in "Continuing Resolution" (CR) in absence of an FY22 Appropriations Bill. During a CR, the Pentagon is allowed to spend funding on budget line items that were in the previously approved fiscal year budget. The biggest issue when Congress passes a new NDAA, but the government continues to operate in a CR, deals with "new start" programs. If, for example, Army Aviation asked, within the FY22 budget request, to initiate a program to procure new countermeasure systems for our fleet and such a request was approved within the NDAA, that program is not able to commence under the CR because the program did not have appropriated funding in the previous year. Fortunately for Army Aviation, we do not have any big programs that fall in this category.

Army Aviation fared very well with the passed legislation. The legislation authorizes increased funding for CH-47F Block-II Chinook and UH-60 Black Hawk helicopters and authorizes the multi-year procurement of AH-64E Apache and UH-60M and HH-60M Black Hawk helicopters. Also, the legislation supports requested funding for Future Long-Range Assault Aircraft (FLRAA) and Future Attack Reconnaissance Aircraft

(FARA). The original budget request for Army Aviation procurement was \$2.8B and the final authorization totaled \$3.3B.....thank you Congressional advocates. Congress also approved a 2.7% pay increase for our uniformed service members.

## FY22 NDAA, Section 357 Incentive Pay Authorities

After years of many advocating for parity for National Guard and Reserve incentive pay, Congress has finally acted by directing DoD to pay reserve component members incentive pay equal to the regular component. But there is still much to do on the part of DoD to provide a report on how it will be implemented, costs involved, and other details, so no pay in the near term but a huge step toward pay parity for our National Guard and Reserve Aviators.

## What's Next?

Congressional lawmakers will return to Washington D.C. in early January to continue negotiations on the President's Build Back Better (BBB) agenda. There is no doubt that 2022 will bring continued political drama. As noted, the NDAA only authorizes the funding for our Army Aviation enterprise. The Defense Appropriations Bill allocates the actual funds. Congress failed to provide appropriations bills for all government back in October thus driving us into continuing resolution and it appears that the winds are against the hopes of finding common appropriation funding ground. Senator Joe Manchin (D-WV) has publicly stated that

he will not support President Biden's BBB legislation. This presents a challenge for the Biden Administration, and we could see a full year Continuing Resolution situation that is extremely damaging to the DoD and our industry partners. Because 2022 is an election year, lawmakers will likely tread lightly knowing that the Democrats have a very slim margin of control in both the House and the Senate.

## Call to Action... Invite your Politicians

I recently attended Central Florida AAAA chapter's Christmas toy drive event in Orlando and I felt such gratitude while witnessing the chapter's impact on the community. The event was well attended and members graciously donated thousands of dollars in toys for local children. The festivities of the event were shared with supportive local government representatives and that evening the chapter also welcomed a new member, the Honorable Geoff Davis, former Congressman from Kentucky, West Point graduate, and Army Aviator!

Every AAAA chapter can increase its bench of champions by inviting local, state, and federal politicians. Our Army Aviation constituency is largely driven by industry and their presence in districts around the country. There are chapters located where industry is not, so we are asking that all chapters consider extending invitations to the politicians in your area. We are here to advise chapters on who these folks are and how to contact them - message me if you have questions.



**February 2022**

Rotary Wing  
Project Manager  
Updates  
Army Capability  
Managers



**March/April 2022**

Army Aviation Mission  
Solutions Summit  
Army Aviation Leadership State  
of the Enterprise  
AAAA Chapter Directory  
2021 Photo Contest Winners

**Bob Lachowski or Erika Burgess** [AAAAindustry@quad-a.org](mailto:AAAAindustry@quad-a.org)

203. 268.2450 [ARMYAVIATIONmagazine.com](http://ARMYAVIATIONmagazine.com)

# People On The Move

## Transfer of Authority

### 1ACB Takes Over Atlantic Resolve Mission



The 1st Combat Aviation Brigade (1CAB), 1st Infantry Division officially cased its colors as they handed over the aviation component of Atlantic

Resolve to 1st Air Cavalry Brigade (1ACB), 1st Cavalry Division in a ceremony held at Illesheim Army Air Base, Germany, Dec. 15, 2021.

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

#### 36 Officers November 18, 2021

##### Commissioned Officers

2LT Chrisfield, John P. \* - DG  
2LT Niemeyer, James A. - HG  
1LT Wilde, Nicholas D. \* - HG  
2LT Behrendt, Eric A. \*  
1LT Beischer, John W.  
2LT Burch, Jessica M.  
2LT Decker, Samuel D.  
2LT Hayes, Jon J.  
2LT Hilby, Isaac W.  
2LT Lopez, Santiago M.  
2LT Matter, Michael J.  
2LT McAlpin, Dallas R.  
2LT Mortenson, Sydney N. \*  
2LT Schrader, Nathan R.

##### Warrant Officers

W01 Fletcher, William K. II + - DG  
W01 Hoertsch, Brandon D. - HG  
W01 Orban, John B. - HG  
W01 Wilson, Sean E. - HG  
W01 Ace, Robert J.  
W01 Ahn, Taylor B.  
W01 Baker, Mitchell A.  
W01 Baucke, Thomas C.  
W01 Burtnett, Matthew J.  
W01 Carter, Rashaun M.  
W01 Clever, Jeremy M.  
W01 Freda, Benjamin M.  
W01 Hyde, Nathaniel R.  
W01 Klauer, Jube M.  
W01 Longoria, Alexandra G.  
W01 Malachowski, Samuel B.  
W01 McCain, Zachary T.

W01 O'Mealy, Caleb P.  
W01 Pennington, Kyle J.  
W01 Rappisi, Matthew T.  
W01 Vallade, Joseph T.  
W01 VanWagenen, Eric R.

#### 46 Officers December 2, 2021

##### Commissioned Officers

2LT Barbrow, Seth T. \* - DG  
2LT Mortimer, Dade R. \* - HG  
2LT Radliff, Schuyler J. - HG  
CPT Daley, Nellie M.  
CPT Day, Charles M.  
2LT Eljadidi, Said  
2LT Gray, John S.  
1LT Hughes, Brian E.  
2LT Hunter, Noah B.  
1LT Jones, Nathan C.  
2LT Kelenske, Conner S.  
2LT Park, Josiah B. \*  
2LT Rakocy, Rachael E.  
1LT Skelly, Thomas H.  
2LT Viljac, Carson M.

##### Warrant Officers

W01 Coffey, Brent E. - DG  
W01 Fletcher, Evan G. - HG  
W01 Puterbaugh, Megan M. - HG  
W01 Ruth, Russell R. - HG  
W01 Van Oostendorp, Chelsea L. - HG  
W01 Porter-Macias, Stephen J. - CL  
W01 Atherton, Gregory L.  
W01 Beaufort, Catherine J.  
W01 Beckett, Cameron N.  
W01 Blakeway, Christopher I.  
W01 Coyner, Matthew R.  
W01 Cruz, Nicholas A.  
W01 Cruz, Oliver J.  
W01 Dahbashi, Cameron B.  
W01 Ferguson, Michael S.



Class 22-002



Class 22-003

W01 Graham, Christopher T.  
CW2 Groce, Benjamin P.  
W01 Hagey, Adam B.  
W01 Hodges, Phillip B.  
CW2 Johns, Christian T.  
W01 Jun, James  
W01 Lambert, Anthony David Y.  
W01 Laws, Joshua L.  
W01 Miller, Benjamin H.  
W01 Muzzio, Grant D.  
W01 Romero, Kaleb S.

W01 Ruiz, Alfredo  
W01 Runge, Patrick R.  
W01 Shepard, Samuel A.  
W01 Tanis, James A.  
W01 Townsend, Katherine L.

-DG: Distinguished Graduate  
-HG: Honor Graduate  
-CL: Commandant's List Graduate  
\* = AAAA Member  
+ = Life 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 043-21

PVT Anthony Eliceo Rodriguez  
\* - DG

SPC Alan Ray Miller  
PFC Jesse Ray Miller  
PVT Raphael-Andre Piolo Quiros  
PV2 Aneudy David Ramosreyes  
Class 044-21  
PV2 Ronald Puckett Journey \* - DG  
PVT Maalik Tyshon Austin  
PV2 Shawn Donald Bryant  
PV2 Sheilamarie Dolor Bumagat  
PVT Timothy Tyrell Campbell  
PFC Samara Rose Chaveztorres  
PFC Jacob Crawford  
PFC Deondre E Douglas  
PV2 Yandel Cristian Figueroa  
PVT Juan Pablo Gomez  
PFC Erica Regina Lloyd  
PVT Alexis Danielle Martinez  
Class 045-21  
PFC Matthew D. McDougal \* - DG  
SPC Kevin Emmanuel Alvarez  
PV2 Tristan James Crosby  
PV2 Cobi Lane Rawald  
PFC Tristan Thomas Torres  
SPC Thomas Alexander Usic  
PFC Lucas Reed Woodward

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

Class 032-21

PVT Sydney A. McElhany \* - DG  
PFC Mario Alejandro Alemendares  
PVT Franzin Guico Hilario  
PV2 Andrew Dale Irwin  
PV2 Dylan Lyle Jackson  
PV2 Tristan David Kinchen  
PFC Jozie Calynn Shomo  
PFC Madelynn Rae Thompson  
PFC Jack Wisleypaul  
Class 034-21  
PFC Aaron M. Munguia \* - DG  
SPC John Nicholas Applegate  
PFC Louie Chacon  
PFC Steven Edward Fown  
PFC Yefim Geoffrey Gutman  
PV2 Mark Isiah Holder  
PV2 Tyler Christian Inez  
SPC Fatima Alish Shamsuddin

PFC Bernardo Junior Solis  
PV2 Andy Ulpiano-Garcia  
PV2 Tyler Anthony Vince  
Class 036-21  
PFC Brittney Carol Pressler \* - DG  
PV2 Kobey W. Howard Emmons  
SPC Kurukulasuriya Fernanado  
PV2 Jaden Joseph Grimm  
PVT Gavin Roger Haffner  
PVT Brady Wade Healy  
PV2 Larry James Kittelson  
PFC Kchrys Gabriel Leblanc  
PVT Delina Isabell Martinez  
SPC Fatima Alish Shamsuddin

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

Class 075-21

SPC Carrie L. Schwandt \* - DG  
PV2 Joshua Michael Dyer  
PVT Jade Alyssa Fugate  
SPC Cole Christopher Gregory  
PV2 Alex Trent Hancock  
PV2 Kevin Robert Heckley  
PVT Trever Alan Heffernan  
PFC Samuel A. Hoogendoorn  
PV2 Joseph Taylor Inman  
PVT Dylan Lee Johnson  
PV2 Lewis Alan Linsdstrom  
PV2 Caleb Tyler Meeks  
Class 076-21  
SPC Jorge L. Brown-Ojeda \* - DG  
PV2 Russell J. Anderson  
PV2 Andrew H. Budzinski  
SPC Daniel John Manchen  
PVT Hasib Mohamed  
PVT Joyeuse Nibintije  
PV2 Matthew Joseph Sarosy  
PFC Matthew Trey Shaw  
SPC Jose L. Zazueta-Aceves  
Class 077-21  
PFC Sean Walter Donaghy \* - DG  
PV2 Zackarie James Chapman  
PFC Chauncey Kennae Church  
PV2 Tanner Lincoln Eldridge  
PV2 Jack Ryan Floriosousa  
PFC Zachary Michael Garcia  
PV2 Tobias Aaron Guzek  
PV2 Atticus Raymond Kurtz  
PFC Ryan Scott Livingston  
PFC Jacklyn Diana Lombard  
SPC Eddison Kirkland Marske  
PFC Braxton Jamesburr Silvestre  
SPC Marissa Paige Valentine  
Class 078-21  
PFC Francisco Santos-Rivera \* - DG  
SPC Cameron Scott Dixon \*  
PFC David Allen Johnson  
SPC Paul David Kelly  
PV2 Collin Blake McKeown  
PV2 Alexander Edward Miller

SPC Rogelio Lazaro Monteagudo  
PV2 Corey Raye Poulson  
SPC Matthew Michaellee Scholl  
PFC Timothy Daniel Shafer  
SPC Jeffrey Kyle Smith  
PFC Daniel Lamar Turner  
Class 080-21  
PV2 Nathan C. Dorsey \* - DG  
PFC Nicholas Daniel Castle  
PFC Dominic Thomas Compoz  
PFC Matthew Garrett Davis  
PV2 Kristofer Day Drain  
SPC Rogelio Lazaro Monteagudo  
PV2 Alexander Joseph Stegeman  
PV2 Joseph Henry Tappe  
PV2 Austin Michael Williams

### Aircraft Powerplant Repairer (15B)

Class 017-21

PV2 Hector Raul Castro \* - DG  
PVT Emma Louise Auberg  
PV2 Eduard Botnari  
PV2 Alexander Daniel Doornink  
PFC Adriano B Girangaya, Jr  
PFC Michael Thanh Lam  
PV2 Jacob Joseph Martin  
PV2 Isaac Flanegin Mccoy  
PFC Wesley Gerard Mitchell, Jr  
PFC Michael James Monaghan  
PV2 Troy Kyle Owen  
PVT Pedro Trejo  
PFC Javonte Ronzell Wooden

### Aircraft Hydraulics Repairer (15H)

Class 015-21

PVT Dimitri A. Ognibene \* - DG  
PV2 Michael Jean Bourque II  
SSG William Tyler Fulbright  
PVT Charles Joseph Hobbs  
PVT Jacob Daniel Mohlman

### Avionic Repairer (15N)

Class 017-21

PV2 Julianna Lynn Hare \* - DG  
SGT Megan Elaine Goetsch  
SPC Jonathan James Janick  
SPC Jeremy Scott Milliken  
PV2 Abbey Elizabeth Moran

PV2 Joslyn Nikaiya Patterson  
PV2 Malik Divine Shakir  
Class 018-21  
PV2 Jacob M. Grummer \* - DG  
PV2 Xavier Derryl Brown-Douglas  
SPC Aren Mmo Dela Cruz  
SPC Korin Joseph Hamlet  
SGT Noah Yassar Hills  
PV2 Natter Cher Lee  
Class 019-21  
PFC Daniel D. Stokely \* - DG  
PFC Phung Ho  
PFC Adam Khadrani  
PFC Youssef Khadrani  
PV2 Zachary Tianyuer Lam  
PFC David William Pons  
PV2 Quinn Nathaniel Roemmich  
PV2 Miguel Jerson Zelas

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

Class 017-21

PFC Joshua Jerreld \* - DG  
PFC Roman Adami  
SGM Abdulla Al Hosani  
SGM Mohammed A M A Al Kenji  
SGM Ahmed Salem Al Meqbaalii  
SGM Badr Khalfan O A Al Shamsi  
SGM Humaid M H A Al Shehhi  
SPC Nathan Casey  
PFC Jose Cortesdejesus  
PV2 Kurt Denton  
SPC Joseph Maes Jr  
PFC Brandon Mathis  
CPL Austin Temple  
Class 018-21  
PFC Roman Adami  
PFC Hunter Brooks  
PVT Lee Bruce Jr  
PFC Jose Cortesdejesus  
PV2 Kurt Denton  
PVT Shawn Giggey Jr  
PV2 Robert Hahnviands  
PFC Brandon Mathis  
PVT Giovanni Sanchez  
PV2 Drew Smith  
- DG: Distinguished Graduate  
\* = AAAA Member  
+ = Life Member



**Deployed?**

**Or Know an Army Aviation Soldier who is?**

**Spread the Word!**

You are eligible for a **FREE 12 Month AAAA Membership.**

Contact: Deb@quad-a.org





# AAAA

NETWORK | RECOGNITION | VOICE | SUPPORT

## Unmanned Aircraft Systems (UAS) Graduations

### UAS REPAIRER

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

#### 8 Graduates,

**27 October 2021**

PV2 Jacob Godsey - HG  
PV2 David Golden

PV2 Giovanni Guzman  
PV2 Jubal Howard  
PV2 Efrain Pena  
PV2 Philadarius Ross  
PV2 Ryan Striplin  
PVT Brennan Morrison

#### 7 Graduates,

**16 November 2021**

SGT Trevor Mackey - HG  
SPC James Hertenstein  
PFC Jackson Cowan

PFC Christopher Herndon  
PV2 Naphtali Actie  
PV2 Deacon Hoffsommer  
PV2 Jimmy Moak III

### Gray Eagle UAS Repairer Course

AAAA congratulates the following Army graduates of the Gray Eagle Unmanned Aircraft Systems Repairer

Course, MOS 15M, at Fort Huachuca, AZ.

#### 16 Graduates,

**25 October 2021**

SGT Samuel Hancel - DHG  
SPC Simon Shultz - HG  
SPC Travis Harper  
PFC Francisco Domenechocasio  
PFC Peter Faull  
PFC Keon Lawrence

PFC Samuel Newhouse  
PV2 Armondo Felicianolugo  
PV2 Randy Freeman II  
PV2 Zachary Higley  
PV2 Xander Lyons  
PV2 Damon McCoy  
PV2 Zachary McDowell  
PV2 Carson Newell  
PV2 Enrique Rivasiv  
PV2 Aaron Williams

### 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

#### 24 Graduates,

**29 October 21**

PFC Aaron Lowden -DHG  
SPC Christopher Rosensteel\*-HG  
SPC Evan Conner  
SPC Sigfredo Quiles-Gonzalez  
PFC Thomas Donahue  
PFC Autley Loyd

PFC Jonathan Myers  
PFC Patrick Orozco  
PFC Cody Phenicie  
PFC Hector Rodriguez-Roman  
PFC Ezekiel Valdez  
PFC Paul Zertuche  
PV2 Andy Amaya  
PV2 Dayton Baker  
PV2 Lukas Bond  
PV2 David Cape  
PV2 Frantz Clermont  
PV2 Aaron Gray  
PV2 Michael Hutton  
PV2 Riley Kendall  
PV2 Tyler Reifers  
PV2 Sean Ryan  
PV2 Kevin Vegaulla  
PVT Morgan Landry

#### 23 Graduates,

#### 18 November 21

PFC Nicholas Smith - DHG  
PV2 Kai Aschwanden - HG  
SSG Bianca Cavallaro  
SGT Sky Rathje  
SPC Keira Chong  
SPC Seth Deets  
PFC Charles Brumbaugh  
PFC Traven Culton  
PFC Gavin Gavorski  
PFC Andrew Linder  
PFC Mercedes Litchfield  
PFC Luis Mendoza  
PFC Orlando Ortiz  
PFC Jacob Smith \*  
PFC Juan Zavala-Carrick  
PV2 Jordan Dietrich  
PV2 Michael Holley  
PV2 Kevin Larson

PV2 Travis Phillips  
PV2 Zachary Pyron  
PV2 Oscar Servin  
PV2 Jeremy Shiley  
PV2 Madaline Sink  
PV2 Noah Stevens

### Gray Eagle UAS Operator Course

#### 21 Graduates,

**8 November 21**

PV2 Jaycee Clark - DHG  
SGT Jeremy Perry - HG  
SPC Michael Ambbs  
SPC Jacob Fenter  
SPC Jerrod Fuller  
SPC Ethan Gray  
PFC Blake Clarkson

PFC Griffin Miller  
PFC Ryan Tyler  
PFC Dakotah Watkins  
PV2 Benjamin Colebaugh  
PV2 Matthew Diaz  
PV2 Gage Dietz  
PV2 Eva Duckett  
PV2 Brandon Guinn  
PV2 Charles Kehoe  
PV2 Owen Kerski  
PV2 Brendan Mctigue  
PV2 Joshua Orr  
PV2 Adam Richardson  
PV2 Preston Sinclair

DHG - Distinguished Honor Graduate

HG - Honor Graduate

\* = AAAA Member

## ARMY AVIATION ▶ Advertiser Spotlight

### CTG (Crestwood Technology Group)



CTG provides supply chain solutions designed to keep fleets and systems operational, ready and safe. We are a leading supplier of parts, materiel and obsolescence management solutions to the Department of Defense and its contractors, as well as many of the world's largest airlines, MROs and aircraft manufacturers. CTG specializes in sourcing obsolete and hard-to-find parts. Our obsolescence solutions are designed to help meet your cost, schedule and performance goals. CTG supports multi-domain operations, including air, ground, sea, cyber and space domains. CTG maintains one of the largest on-site inventories of parts for fixed-wing, rotorcraft, power plant and ground-support equipment. We specialize in expendables, rotables, and consumables sourcing, kitting and tooling, inventory management and AOG services.

Companies like Sikorsky, Boeing and Lockheed Martin have recognized CTG's commitment to quality and customer service as award-winning. CTG is AC7402-CAAP certified (Counterfeit Avoidance Accreditation Program), a certification recognized by both customers and industry in setting the highest Aerospace quality management and inspections standards for suppliers and distributors.

<https://www.ctg123.com/defense-aerospace/>

Size of Company – Medium (100-999)

Category – Manufacturing Hard to Find and Obsolete Parts

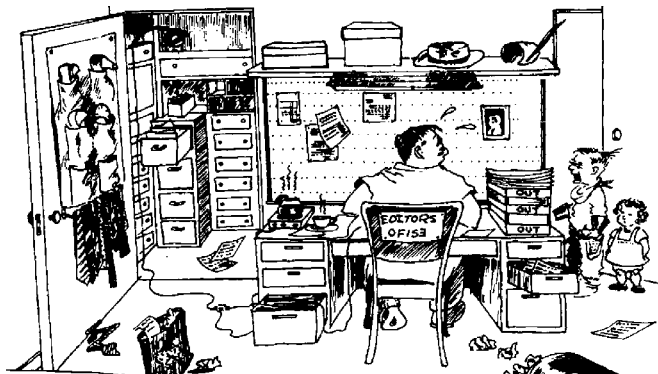
Each month, one 2022 ARMY AVIATION Magazine advertiser will be spotlighted. If chosen, your company may submit newsworthy information that will appeal to the Army Aviation community. **To qualify, your company must have a signed 2022 insertion order for print advertising (1 Ad Minimum).** Selected company will be randomly chosen by the 15th of the month prior.



# 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 January 31, 1997

### Austerity and the Commander\*

"In today's Army Aviation community, commanders are confronted with a plethora of leadership challenges. The shrinking military budget may be the cause of most of these challenges, and it is the main reason our units must learn to 'do more with less.' Due

to the diminishing budget, Army Aviation has been compelled to change the way it did business in the past. Specifically, the Aviation Branch encourages leaders to be creative and to produce more from less." \* See page 30, "A Comprehensive PT Program," Army Aviation, January 31, 1997, by Captain John R. Kenefick.

### Graduating Class

Aviation officers recently graduated from the Army War College, Carlisle Barracks, Pennsylvania, July 26, 1996: From left to right:



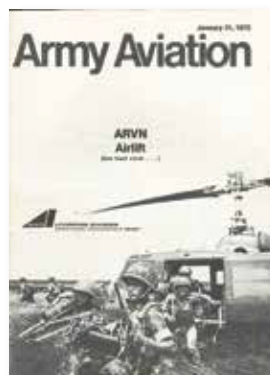
First Row: LTC James W. Ball, Jr., Colonels Bruce R. Bodin, Mike Breithaupt, Mark E. Byers, LTC Peter Castilow, Colonel Gary E. DeKay. Second Row: LTCs Rodney F. Dyer, Clay Edwards, Colonel Dennis L. George, LTC Gordon D. Griffin, Colonels Lee McMillen, Henry A. Moak, Jr. Third Row: LTCs Dennis L. Patrick, Peter Delitier, Daniel Pike, Colonels Albert A. Rubino, Roger A. Sexton, LTCs Patrick J. Sheehan, Roger D. Thomas, and LTC (P) William A. Tucker.



Godwin, then Senior VP, SFC Pam Shugart, VP Programs and MG Richard E. Stephenson, AAAA President.

### Space Flag

Colonel Bill McArthur (center), Army Astronaut, presented a flag flown in space, aboard the Space Shuttle, to members of the Potomac Chapter of AAAA, to LTC Tom Petrick, VP Scholarships, Colonel Robert



## 50 Years Ago January 15, 1972

### 10,000th Student

First Lieutenant Walton D. Stallings, Jr., was the 10,000th student to pass through the Learning Center at Fort Rucker, Alabama. The center offers everything: From tape cassette lessons, programmed texts, private study



booths equipped with projector and earphones, in addition to other training aids including a mock-up of a UH-1 "Huey" helicopter cockpit. Lieutenant Stallings is slated to graduate from the initial entry rotary wing course at the Army Aviation School in March.

### Business End

Stratford, Connecticut: A Sikorsky Aircraft's S-67 Blackhawk shows its business end. Its formidable firepower includes 152 2.75-inch anti-personnel rockets, designated FFAR or Folding Fin Aircraft Rockets. The chin turret is home to either a 20 mm or 30 mm cannon. Billed as the world's fastest helicopter, the S-67 can



also be equipped with such missiles and rockets that would make it a lethal anti-armor weapons platform, including being armed with the TOW missile system.

### Fort Knox

Captain Phillip E. Raschke (left) holds up one of ten 1961-1970 bound volumes of Army Aviation magazine that he received as second runner-up in AAAA's 1971 Grand Sweepstakes. Viewing the matched library set covering the "Decade of Airmobility" is Major Robert L. Catron, Secretary of the AAAA Bluegrass Chapter, Fort Knox. Some fifty hardbound editions of Army Aviation were awarded during the ceremonies.





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 2023 induction is June 1, 2022

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

# Army Aviation Hall of Fame

## Master Sergeant Fred W. Zabitosky



*Army Aviation Hall of Fame 2017  
Induction – Nashville, TN*



MSG Fred W. Zabitosky distinguished himself by a lifetime of service as a Soldier and as a Special Forces Noncommissioned Officer. It was his actions on February 19, 1968 while serving in the highly classified Military Assistance Command Vietnam-Studies and Observations Group (MACV-SOG) that distinguished him in the field of Army Aviation.

On that day Zabitosky, who was at the time a 25 year old staff sergeant, led his 9 man patrol consisting of 3 American Special Forces personnel and 6 indigenous Chinese Nung fighters in a mission to determine the presence of North Vietnamese Army armor deep in enemy territory on the Ho Chi Minh Trail during the height of the 1968 Tet Offensive. They quickly found themselves outnumbered over 50 to 1 and in a battle with an enemy force of 4 companies.

In the ensuing hours he directed his patrol's fires and coordinated U.S. Air Force A-1 close air support and Army helicopter gunships to prevent his patrol from being overrun while they awaited extraction. After a long battle, two Army helicopters attempted to extract the patrol. The first aircraft was successful but the second which Zabitosky was riding in was shot down.

Despite being badly burned and wounded himself he made his way back to the burning aircraft and rescued two Army Aviators. For those actions he received the Nation's highest award for valor, the Medal of Honor.





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or bringing the fight with you.  
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